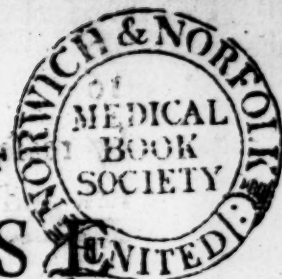


GENERAL and COMPLETE



Libris
Jacobi *Lynn*
ON ALL THE
1746
DISEASES

Incident to
CHILDREN,

FROM
Their Birth to the Age of Fifteen.

WITH
Particular INSTRUCTIONS to tender Mothers,
prudent Midwives, and careful Nurfes.
The whole made Familiar to every CAPACITY.

By the LEARNED

Dr. **JOHN ASTRUC**,
Regius Professor of MEDICINE at Paris.

AND

Chief Physician to his present Majesty the King
of FRANCE, &c.

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CHILDREN

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THE
PREFACE.

THE principal motive which induced me to publish these lectures, is the great reputation Doctor ASTRUC's works bear among the learned; not only for his perspicuity in theory, justness in his principles, but success in his practice, which have gained him an universal approbation, and make this work preferable to any thing written on the present subject: for all the authors who have hitherto treated of the diseases of children, if *Originals*, are either too confused

and imperfect, or not sufficiently copious; if *Compilers*, they are unintelligible from their injudicious collections; wherefore to supply these defects, the Dr. has endeavoured to keep a medium; insert nothing superfluous, neglect nothing necessary, and to adapt the stile to the meanest capacity.

I hope the candid reader will correct and excuse the few mistakes of the press by the errata.

I have nothing more to premise, but leave the whole to the judgment of able physicians; for say what I will in favour of this treatise, it is its merit alone can give it reputation.

GLOSSARY,

OR,

AN EXPLANATION of the Terms of Art
contained in this Treatise.

A.

A *Abdomen*, the belly.
Abdominal, of, or be-
longing to the belly.
Abscess, an imposthume, or
gathering of matter.
Acescent, growing sower.
Albæa, the herb marshmall-
ow.
Anchylosis, an immoveableness
of a joint, with a hard tu-
mor.
Annuli, little ringlets.
Anodynes, medicines which
allay pain.
Antihelmintic medicines, such
as destroy worms.
Antiasthmatic medicines, such
as are good against the
asthma.
Antiseptics, medicines which
resist putrefaction.
Antispasmodics, medicines
which hinder contractions.
Aorta, the largest artery in the
body, immediately con-
nected to the heart.
Argillaceous, clayey, like clay.
Articulation, the joining of
two parts together, so as to
be moveable; a joint.
Astringents, binding medicines.
Attenuants, such medicines as
thin the blood.

B.

B *Rumex*, the herb self-
heal.

C.

C *Calculus*, the stone in the
bladder.
Callous Lips, the edges of a
wound when grown hard.
Capillary, small like a hair.
Capsulae, cavities, or little
coffers.
Carcinomatous, cancerous.
Caries, rottenness.
Cataplasm, a poultice.
Cathartic, purgative.
Cathartic Remedies, medicines
which eat away proud flesh,
warts, superfluities, &c.
Cerebellum, a part of the brain
at the hinder part of the
head.
Cerumen, ear-wax.
Chalybeate, containing steel.
Chyle, the juice which is se-
parated from the food.
Cicatrice, a scar.
Colliquation, fainting, sinking
of the spirits.
Collyrium, a medicine for the
eyes.
Cranium, the skull.
Crusta lactea, a scald-head.
Cutaneous, belonging to the
skin.

Cuti-

Cuticula, the outward covering of the skin.

Cutis, the skin.

Cyclamen, the herb sow-bread.

Cylindrical tube, a round, long, hollow pipe.

D.

D *Eglutition*, a swallowing down.

Dentes Canini, the dog-teeth, or eye-teeth.

Dentes Incisivi, the fore-teeth.

Dentes molares, the jaw-teeth, or grinders.

Dentition, cutting of teeth.

Diarrhœa, a looseness.

Dura Mater, the outward covering of the brain.

E.

E *Metic*, vomitive.

Epiploon, the cawl.

Eruftation, a windy belching.

Erysipelas, a red, painful swelling of the skin; *St. Anthony's fire*.

Erysipelatous, of, or belonging to an *Erysipelas*.

Exostosis, a swelling of a bone.

F.

F *Æces*, excrements; also any filth or nastiness.

Femur, the thigh.

Frænum linguae, the bridle of the tongue.

Fungous flesh, flesh like a sponge, which arises in wounds.

G.

G *Astrie juice*, the juice of the stomach.

Germina, buds; the upper part of a tooth, which is breaking through the gums.

Gland, a fleshy substance which strains a liquor; thus the glands in the mouth separate the spittle; the sweetbread another kind of liquor. See *Pancreas*.

Glottis, the opening of the wind pipe.

H.

H *Æmorrhage*, any flux of blood.

Æmorrhoidal blood, the blood contained in the veins of the great gut.

Hepatitis, a pain in the liver.

Hernia umbilicalis, a navel rupture.

Hydrocephalus, a dropsy in the head.

Hypochondrium, the uppermost part of the belly, under the chest.

Hypogastrium, the lower belly.

I.

I *Idiopathic disease* which neither depends on nor proceeds from any other.

Iliac passion, a stoppage of the guts, with violent pain.

Impetus, force.

Infarction, a stuffing up of the vessels.

Inguinal, of or belonging to the groin.

Inspissated, thickened.

Intestinal, belonging to the intestines, or guts.

Intestines, the guts.

L.

L *Abes*, a taint or slight infection.

Lacteals, vessels that take up the nutritious juice from the guts, &c.

Lamina,

Lamina, a thin plate.

Larynx, the upper part of the wind-pipe.

Lentor, slowness, an indisposition of the juices to circulate.

Ligature, a binding, as of the arm with a fillet, in bleeding.

Lippitude, a disorder of the eyes, in which they feel rough, as if sand was in them.

Lues Venerea, the French-pox.

Lymph, a thin, clear liquor, which is separated by the glands.

Lymphatic vessels, those which separate or convey lymph.

M.

M *Arafnus*, a consuming fever.

Meconium, the black excrements of a foetus, which remain in the guts after birth.

Medulla spinalis, the marrow of the back bone.

Menstruation, time of, womens monthly discharge.

Mucus, a thick humour which lines the stomach, &c.

N.

N *Arcotics*, medicines which abate pain.

Nephritis, pain in the reins or kidneys.

Node, an elevation, or rising of any part without inflammation.

Non-naturals, air, meat, drink, sleep, motion, rest, retention and excretion, and the passions of the mind.

O.

O *Edema*, a white, soft, insensible tumour.

Oxymel, a medicine composed of honey and vinegar.

P.

P *Ancreas*, the sweet-bread; a gland in the belly which conveys a liquor to the guts to allay the gall.

Pancreatic juice, the liquor of this gland.

Paroxysm, a fit.

Parotids, glands behind the ear.

Pericranium, the hairy scalp, or skin which covers the skull.

Periosteum, the skin that immediately covers the bones.

Peristaltic motion, the natural motion of the guts.

Perniones, chilblains.

Phagedænic, eating, corroding.

Pharynx, the upper part of the gullet.

Phlegmon, a hard, painful tumour.

Phlyctæna, hot pustules full of watery humours.

Phlyctynoides, hot pustules full of sharp humours.

Phrenitis, phrensy, a disorder of the brain.

Phthisis, a consumption.

Phthyriasis, the lowsy distemper.

Pia mater, the inward covering of the brain.

Pleura, the skin which lines the breast.

Primæ viæ, the first passages.

Q.

Q *Uadrangular*, four square.

Rachitis

R.

R *Achitis*, the rickets.
Ranula, a swelling under the tongue.
Ranule, the veins that appear conspicuous under the tongue.
Rectum, the great gut.
Rhagades, cracks, clefts.
Rostrum, beak, or bill

S.

S *Saliva*, spittle.
Salival, belonging to the spittle.
Sanies, the corrupted matter of a wound, &c.
Scabies, scabbiness, the itch.
Scirrhus, of or belonging to a schirrus.
Schirrus, a hard tumour without pain.
Scrophularia, fig-wort.
Scrophulous disorder, the king's evil.
Scrotum, the cod.
Sebaceous, fatty.
Sebaceous glands, the glands which separate the fat.
Sinus, a cavity or hollow.
Sinus frontalis, the cavity in the forehead.

Spina dorſi, the edge of the back-bone.

Stimulus, any thing that occasions pain.

Sutures, the joinings of the bones of the head.

T.

T *Tenesmus*, a continual desire of going to stool, without voiding any thing.

Thymus, a gland which separates lymph from the blood for softening the lungs.

Trachea arteria, the wind-pipe.

Tubercles, little swellings, or imposthumations.

U.

U *Umbilicus*, the navel.
Uterus, the womb.

Ventricles, little cavities in the heart, brain, &c.

Vertebrae, the joints of the neck and back-bone.

Vesiculae, little thin bladders, or blisters.

Virus, poison.

Viscera, the bowels.

THE

ERRATA:

Page 38. line 22. for corroterfive, read corrosive. p. 60.
 l. 17. dense, r. denſe. p. 81. l. 1. batraction, r. batrachion.
 p. 103. l. 20. scholle, r. colic. p. ib. l. 25. inant's, r. infant's.
 p. 107. l. 9. naricoticks, r. narcotics. p. 112. l. 10. serons,
 r. serous. p. 114. l. 1. laucus, r. laquus. p. 128. l. 5.
 sylvius, r. sylvius. p. 136. l. 1. hathorn, r. hatt's-horn.
 p. 139. l. 6. valeriam, r. valerian. p. 144. l. 21. pitituary.
 r. petitary. p. 148. l. 2. altenuates, r. attenuates. p. 154.
 l. 4. cylindriac, r. cylindrical. p. 171. l. 8. venescetion,
 r. venescetion. p. 176. l. 23. astringments, r. astringents.
 p. 178. l. 21. affort, r. effort. p. 218. l. 25. reloxtation, r.
 relaxation-

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THE
DISEASES
OF
CHILDREN.

BY the diseases of children we mean,
1. Such as affect infancy in particular,
and these we may properly call its
peculiar diseases. Of this class, are the symp-
toms of dentition, which we seldom meet
with in any age but in this. 2. The diseases
that children are more frequently liable to
than adults; such are worms, and their con-
sequences. 3. The diseases infants have
in common with adults, and to which both
are equally subject; but require some change
in the method of cure, with respect to the
tender age and constitution of children;
these are convulsions, epilepsy, &c.

B

The

The subjects of these various ailments are, boys to the age of fourteen, and girls to that of twelve ; after which, their diseases belong not to our present treatise, because they then cease being children, and become liable to the same disorders with adults, which in both should be treated after the same manner.

The three classes of the disorders above-mentioned do not equally happen in the different stages of childhood ; for the proper diseases of children, are chiefly observable from the day of their birth, until they have attained the age of three or four years, when they insensibly give way to the disorders of the second class, or to those which, though common, are more frequent in children than adults, and which chiefly affect this tender age, from the time of birth to the age of seven years, receding in the same proportion with the former, until the diseases of the third class come on, or those which children have in common with adults, and which become more frequent than any of the two former, about the age of twelve or fourteen. I shall not particularize, or enter into subtilties concerning these three periods, or their circumstances.

Having

Having thus premised a general Idea of the following treatise, it will not be improper to divide the whole into six sections: the first will comprehend the cutaneous diseases of children: the second, dentition, and its consequences: the third will explain the disorders which affect each region of the body, beginning first with those of the head, as the epilepsy, hydrocephalus, &c. the fourth will treat of the diseases of the breast in any of the three classes before-mentioned: the fifth will comprise the diseases of the lower belly in the same order: and the sixth, the universal disorders of the body, or those which attack the extremities, the trunk, &c. as the rickets. As to the small-pox and measles, to which children are very subject, I have explained them at length in my treatise of fevers; to which I refer you concerning those points.

The method of treating children immediately after their birth, when they begin to suck, and how they should be weaned.

BEFORE I enter upon an explanation of the cutaneous disorders of children, it will not be foreign to my purpose, 1. to ac-

quaint you how an infant should be treated after its birth; 2. what is to be done when it begins to suck; 3. how it is to be managed when the nurse intends to wean it.

How to tie and cut the navel-string.

I. **A**S soon as the child is born, let it be covered with a warm napkin, and carefully laid on the midwife's knees, with its face towards hers, that it may be the better secured from the waters which then flow from the mother; and on its side, that it may be the less incommoded by the spittle it throws up; and not upon its back, for fear that the humours running to its mouth and nose, may choak it for want of free evacuation. At the same time, the mother's parts are to be covered with a warm folded linen, to hinder the ingress of the cold air, observing the other cautions given in my treatise of the diseases of women, relating to midwifery: nor is the infant to be kept long in the above-mentioned situation, lest it should catch cold.

This being done, take four or five doubles of thread, about a foot long; knot them at each

each

each end, to prevent their entangling; and tie the navel-string therewith, about two fingers breadth of the child's belly, making first a double knot; then bringing the thread round, let the midwife make a second on the opposite side, and afterwards a third, if requisite, for the greater security: this being done, let her cut asunder the navel-string with scissars a fingers breadth below the ligature, so that three fingers breadth of it is left hanging at the child's belly. She must make use of pretty thick thread, and must not tie the ligature too streight, lest it cut through the navel-string; in which case, the remaining part thereof may prove too short for a second ligature, and a mortal hemorrhage might thereby supervene; neither must it be too slack, lest the child, which is wrapp'd up in swaddling cloths, bleed to death before it is discovered, as hath happened to several children. Let her therefore carefully observe, after the operation is performed, whether the blood passes through or not; if it does, the navel-string must be tied a new, to close it more exactly. This being done, wrap up the end of the navel-string, three or four times about with a small rag, dry, or

dipp'd in oil of roses; then having put another small comprefs of three or four doubles on the child's belly, above the navel, lay the umbilical string so wrapped up upon it, that it may not touch the naked belly, and by its cold, occasion gripes; on the top of all, put another small bolster, and then swathe it with a linen roller four fingers broad, to keep it steady, lest by rolling too much, or by being continually stirr'd, by the motion of the belly, it happens to fall off, before the vessels be quite closed up and healed.

'Tis very convenient, as we have said, to lay the remaining part of the navel-string on the upper part of the belly, that so if by chance the vessels be not sufficiently closed, the blood, detained by its weight, may have the less *impetus* against the ligature, and not so soon pass through, as if it were turned downwards; for we find sometimes the navel-string to be so great in some children, that although it were very close tied at first, coming afterwards to wither and dry, the ligature is rendered looser, by means of which, an effusion of blood easily ensues, if care be not taken to tie it streighter.

The

The navel-string being thus treated, begins daily to dry away, and is commonly separated from the belly about the 6th or 7th day, seldom sooner or later. But what is most observable, in this case, is, that the remaining vessels fall off here betwixt the ligature and the infant, very close to the belly; whilst in the ligature of the other parts of the body, it happens quite the reverse; for the part on the outside of the ligature falls off: however, we must by no means meddle with it, but give it time to fall off of its own accord, lest, if we pull it abruptly, before the arteries are intirely closed and healed up, a flux of blood follows, or lest it may cause an ulcer, and other diseases hard to be cured, of which hereafter.

There are some good women who are a little superstitious in the tying of the navel-string longer or shorter, according to the difference of the sex, for some pleasant reasons they assign: but it is a mere abuse; for at whatever distance they tie the knot, either nearer or further, though half a foot from the belly, yet it will always be separated in the very same place, just close to the belly; because the abdominal muscles contract them-

felves there, and form a kind of ligature : wherefore, whether boys or girls, let the knot be made as we have already directed, or at least an Inch from the belly, lest it might pain and inflame the child's navel.

It will not be from the purpose to mention here a business of great consequence, which is sometimes capable to kill the new-born babe, without almost knowing the cause of it. 'Tis a bad custom some midwives have, before they make the knot, they drive all the blood out of the navel-string into the infant's belly, believing, that by this means they strengthen the child when 'tis weak : but 'tis no such thing ; for as soon as these vessels are ever so little cooled, the blood they contain quickly loses its spirits, and is half coagulated in an instant ; which is the reason, that being driven back into the infant's liver, is sufficient to cause very great accidents ; not because of its abundance, but because having quite lost its natural heat, it is afterwards soon corrupted, and changes and spoils the child's blood, with which it comes to mix. Wherefore, whether the child be strong or weak, if you will not put it in danger of its life, or at least cause it to have
great

great oppressions, pains and gripes, forbear driving the blood thus out of the navel-string into the infant's body.

When the midwife hath ordered the child's navel, as we have directed, let her presently wrap the child up in a linen bed, warm'd for that purpose, and carry it without delay to the fire, before it is swaddled; for the impression this heat makes on the child, occasions it to discharge urine immediately, and frequently some of the meconium: moreover being thus kept loose for a while, and exposed to the action of the fire, the organs of respiration which were confined and inactive, are by this means expanded.

How to cleanse a new-born babe.

DURING the nine months the child is in the womb, it gathers a thick and whitish matter, with which it is covered when born, and which mixing with the blood that is shed in labour, makes the child look somewhat disagreeable: let her therefore wash the infant all over with milk, ale, or some wine and water a little warm'd; beginning first with the head, where there is most impurity,

impurity, because of the hair ; which having cleansed let a woollen-cap be instantly put upon it, to prevent the child's catching cold ; and then let her proceed to wash the rest of the body, as principally the arm-pits, groins, &c. which parts must be gently cleansed with a soft linen-rag, or sponge dipped in this lukewarm liquor. If the slimy matter sticks so close, that it will not be easily washed off from these places, it may be fetched away with oil of sweet almonds, or a little fresh butter melted in the wine, and afterwards well dried off. This custom is necessary, in order to clear the infant's skin from this kind of milky *mucus*, which is the sediment deposited thereon from the waters in which the child swam during the time of pregnancy ; and proceeds not as some will have it, from the diet of the mother, *neque a semine utriusque sexus*, which cannot reach the child's body, being envelopped in its integuments. The colour is various, according as this lymphatic humour is more or less impregnated with milk. One must also cleanse and unstop with tents of fine rags, wet in a proper liquor, the ears and nostrils. As for the eyes,

of CHILDREN. IF

eyes, they may be wiped with a soft dry rag, not dipped in this wine, that it may not pain them, and make them smart. The mouth, tongue, and jaws, may be cleansed by the finger. These things being all very carefully and tenderly performed, we must diligently examine, whether the infant has any defect, or if there be not a dislocation; whether the nose be strait, or if it be not tongue-tied; whether there be no bruise or tumour of the head; whether the mold be not over-shotten; or if the scrotum be not swelled; in short, whether it suffered any violence in any part of its body in the birth, or otherwise, that present remedies may, according to the nature of the circumstances, be used; and especially if the conduits of the urine and stool be opened; since it sometimes falls out, that these are not perforated, and consequently, that the meconium and urine cannot be voided, which inevitably proves fatal, unless timely care be taken.

How

How to swaddle a new-born infant.

AFTER the midwife hath washed and cleansed the child according to directions, and that she hath viewed every part of its body, let her then swaddle it, beginning with the head, which must be well covered; first, taking a compress three, four, or five times doubled, let her pin it to the customary cap, and apply it to the mold of the head, which is very thin, sensible, and extremely susceptible of cold, and exposed to other injuries, it not being as yet formed into a bone. Therefore she ought to be very careful not to press hard on that part, which may be of great detriment to the infant. She ought likewise to be very cautious, that whatever is wrapped about the child's head, designed either for use or ornament, be not too streight bound, least it might hinder the scull from yielding to the action of the brain, whence headaches, and other ailments often arise. In the next place, let there be thin and soft compresses laid on all the parts where excoriation commonly happens, as behind the ears, upon

upon the breast, in the arm-pits, the groins, &c. after which the babe is to be wrapped up in warm blankets, and swaddled as usual. It is not necessary to give a particular direction how this ought to be done, because it is so common, there is scarce a woman but knows it: but we'll only say in general, that a child must not be swathed too freight, especially about the breast and stomach, that so it may breathe with more freedom, and not be forced to vomit up the milk it sucks, because the stomach cannot be sufficiently extended to contain it; and such a practice may possibly, in time, converting this vomiting into an habit, prove a very great prejudice to the child. For the same reason, the lacing children too tight, and the preposterously bracing them up in steel bodices, in order to give them a fine shape, are highly pernicious.

As to the urine, all children render it as soon as they are born, or at least as soon as they feel the heat of the fire; and sometimes also part of the meconium, but usually a little after. If the infant should discharge none of the meconium within twenty-four hours after its birth, that it may not remain

too long in the intestines, and cause fits and painful gripes, a small suppository may be used, such as a little castile soap rubbed over with fresh butter; as also, a little syrup of violets, mixed with the oil of sweet almonds cold drawn, may be given at the mouth, anointing the belly with the same oil, or with fresh butter. In like manner a gentle glister may be cautiously used and managed to purpose, if occasion requires; otherwise it would be cruel to torment a child with medicines so very early.

It is not absolutely necessary, that the infant, when managed as above, should immediately begin to suck; on the contrary, it should be kept from the breast for twelve hours at least after its birth; nay, it would be better to hinder its sucking for twenty-four hours, which the most ignorant midwives of themselves commonly observe; for the meconium, so called from its likeness to μέκονος or opium, still remaining in the infant's stomach and intestines, would coagulate the milk, and prevent its laudable coction. The origin of this matter, is derived, by some from the nutritious lymph, or waters in which the infant swims, and which, they say,

say, nourishes it by the mouth during its continuance in the womb. But this, for several reasons too tedious to be mentioned, is manifestly false; for it is rather nourished by the navel. Wherefore, I conclude with the majority of physicians, that this matter is nothing else but the fæces of the bile, the pancreatic, stomachic, and intestinal juices, &c. which, continuing in the *primæ viæ*, are inspissated to this consistence, and serve to keep the intestines open and dilated, that so they may the better perform their functions after birth. Part of this matter, as we remarked before, is evacuated by the infant, through the impression made on it by the fire, or otherwise; yet, as some of it for a time remains, it should be purged off by other methods. The most usual is, to order the infant an ounce or more of the oil of sweet almonds, with the syrup of maiden-hair; or if this should not succeed, though it commonly does, add half an ounce of the syrup of peaches, or two ounces, according to the occasion. The common syrup of cichory, alone, or with the oils, will have the like effect, in much the same dose: yet some are not fond of this prescription,
by

by reason, they say, it often makes the child sick and vomit.

II. It is necessary to observe, whether the meconium is intirely evacuated or not. This may be known, when the stools change from black, and become yellow, which is about the 2d or 3d day, losing by degrees this tincture, in proportion as the new faces of the milk mix with the meconium. Yet this is not enough; for the child hath also a certain phlegm remaining in its stomach, which it pukes up some few days after it is born. To remedy this, you must give the child a small spoonful of sugar'd wine, twice or thrice a day, and by no means give it suck, until it be evacuated, lest the milk, mixing with the viscous humour, should corrupt, as it would, if you gave the child present suck. The jews are accustomed to give their children a little butter and honey, which doth almost produce the same effect; and this they do, to follow what is said in *Isaiab* vii. 14, 15. *Behold, a virgin shall conceive, and bear a son, and shall call his name Emmanuel. Butter and honey shall he eat, that he may know to refuse the evil, and chuse the good.* But wine is much better, because it doth

doth better incide and loosen the phlegm, and helps to concoct and digest that which remains. The sugar sweetens its acrimony, and helps to purge it off, as also to deterge and corroborate the stomach. Thus the Passages are evacuated, and disposed to digest the milk when the child begins to suck.

The child being thus dressed and prepared, must be quietly laid asleep; for by the efforts it had made, and the fatigue of being cleansed and swaddled, it stands greatly in need of rest. We must not lay it on its back, but on its side, with its head a little raised, that the saliva may run out the freer: and that the infant may breathe with more ease, and safety, care must also be taken, that the blankets do not too closely cover the mouth and nose.

Mothers ought to suckle their children.

I AM sensible, that it is no easy matter to persuade mothers to suckle their children: however, it is incumbent on us to use our endeavours to induce them to perform this important duty, since the child with the milk it sucks, imbibes the manners and dispositions,

as well as the peculiar qualities of the nurse's humours. This appears plainly in animals which suck a strange dam; for they always partake something of the creature they suck, being accordingly either of a milder or fiercer nature, or of a stronger or weaker body; which may be noted in young Lions tamed by sucking a domestic animal, as a cow, goat, &c. as on the contrary, a dog will become more furious, if it sucks a wolf; and a lamb sucking a goat, changes not only its nature, but even its wool into the goat-kind; so it is also among rational creatures: hence we have justly the old proverb, touching an ill-natured person, *that some brute or other has been his nurse.*

Daily experience may sufficiently convince us, that children really suck in the vicious inclinations, and depraved passions of their nurses, which honest parents perceiving in their children, are amazed at such degeneracies, not knowing after whom the child can take those propensities: wherefore, the mother, though perhaps not the best nurse in other respects, and where it is not inconsistent with some present disorder, is always preferable to a stranger; which if people of honour and probity would more observe,

I am

I am apt to believe, admitting a proper education, that there would not be so many graceless, disobedient, and degenerate children of our age. What madness is it then to suffer an infant, formed upon noble and generous principles, to be thus perniciously corrupted by a stranger's milk?

'Tis also observable, that there is often neither parental love, nor good understanding amongst brethren; that they are of very different tempers, because they have suck'd different breasts; whereas, had they been nursed by their mothers, it might be the means to prevent dissensions in families too frequently observable. Moreover, it is cruel and unnatural in a mother, either out of self-love or indolence, to defraud her new-born babe (tender and helpless) of that milk which nature has provided for it, and which by instinct, it eagerly searches for, though not offered.

But, if natural affection, and the innumerable inconveniencies, to which the mother exposes her child, by refusing to suckle it, are not sufficient to persuade her to do this indispensable duty, let her but consider, that by changing the natural course of her milk, she draws upon herself many diseases, such

as abscesses, schirrhous, and cancerous tumours, which are worse than any thing that can possibly happen to her by suckling her children; and the following words of the prophet, is a standing instance how much God himself was displeased with this barbarity among the Jews: *The sea-monsters draw out the breast; they give suck to their young ones: the daughter of my people is become cruel, like the ostrich in the wilderness, which is hardened against her young ones, as tho' they were not hers.* Lam. iv. 3. Job xxxix. 16.

III. Infants should not be glutted with pap in the first months, which turns to a crude indigestible chyle; it will suffice to give it them moderately twice a day; nor should they be set on their feet too early, as some nurses imprudently are apt to do. Nor should children be weaned until they are eighteen months, or two years old, for the longer they suck the better, as good breast milk not only prevents many ailments, softens and cools the gums when inflamed, forwards dentition, and prevents its fatal consequences, but even lays a lasting foundation for a robust and healthy constitution, and would prevent our having a diminutive generation, of which our age is too productive. After they
are

are weaned, they should be purged now and then with a little rhubarb, or manna, in order to evacuate the sordes of the *primæ viæ*.

S E C T. I.

C H A P. I.

Of the CRUSTA LACTEA, or LACTUMEN.

WE now come to the disorders of children, properly speaking, beginning with those of the *Cutis*, which are the first and most common that affect children.

The names of these cutaneous disorders are various and confounded, as well among the *Latins* as the *Greeks*, for they agree in no respect; so that the same names are employed to express different disorders: this causes such a confusion, that we are at a loss to know what disorders these names denote, as modern Botanists are with regard to the names of plants in *Theophrastus* and *Di-ascorides*.

This disorder is called *Crusta Lactea*, *Lactumen*, *Lactumina*, in Latin; *κηρία* in Greek *Acor* and *Favus*, and by some *Tinea*. But the last is a different disorder with which the names *Keria*, *Acor* and *Favus*

agree better than with the present evil, of which the first three names are more expressive.

It may be described a whitish or milky crust, of more or less extent, affecting only sucking children; is sometimes of a grey or blackish colour, seated most commonly on the hairy-scalp, extended sometimes on the forehead, or other parts of the face; is frequently pendulous, moveable, and transfusing a thin serous humour. To render the idea of this disorder the more intelligible, add, that it seldom happens to any but well nourished infants, who suck much. It first manifests itself by small tumours, like vesicles, interspersed with small insensible pores, from which flows or transudes a spissid humour, much like pomatum, which is dried by degrees, and forms a crust, daily encreasing, and of different colours, sometimes grey, black, or of a deep yellow. The different quantity of blood, mixt with the humour of this crust, from scratching the part by the restless infant occasions this diversity of colours.

It should be now examined what the seat and nature of this evil is. The seat is the sebaceous glands, for it rarely appears any
where

where but in them. Moreover, if the disorder had been seated in any other part of the skin, it would give room to very large cicatrices, which never appear in this; on the contrary, the skin is very smooth, so that women desire their children should have the *Crusta lactea*, in order to render them the more beautiful. As for the existence of the sebaceous glands, I shall not pretend to prove a thing so universally allowed; nor shall I speak of their structure, but only observe, that they are extremely small, and are very numerous in the hairy-scalp, the eye-brows, eye-lids, &c. They are also sebaceous glands which secrete the wax of the ears, eyes, &c. This disorder is never observed in emaciated and ill-nourished children; on the contrary, such milk as is very thin and serous, makes it disappear, whence we may conclude, that the cause of this disorder is owing to a great quantity of oily and rich milk, which is blended with the sebaceous humour, obstructs the glands, and raises the *vesiculæ*, or small tumours which give rise to the evil. These elevations happen at the extremities of the excretory ducts of the sebaceous glands, which at length being acted upon, emit a

yellow or blackish humour; but as it is benign and balsamic from the mixture of the milk, it does not excoriate or ulcerate the part, as we see in a lippitude or spurious gonorrhœa, wherein, though the sebaceous glands are obstructed by a viscid humour in the parts of generation, and disorders of the eyes, yet no excoriation happens. The crust is more commonly seen on the head and face than elsewhere, both because a great number of sebaceous glands is seated in these parts, and moreover, are very much exposed to the cold, and other injuries of the air, whence the matter is the more inspissated and disposed to settle in them, whilst the sebaceous glands of the rest of the body, are neither so numerous nor exposed to these inconveniences, being kept warm by the clothes which cover us, whence the stagnant humours are dissipated. Next to the theory of this disorder, we are to answer some questions relating to it, as,

I. Why the symptoms of the *Crusta Lactea* have periodical returns; for the patient may find himself well during fifteen days, and as many more the crust augments; the part becomes more sensible and plentifully discharges

discharges a ferous humour, &c. this some attribute to the various changes of the moon, but it should be rather deduced from the nurse's menstruation, whereby her milk becomes more acrid and active, than usual, which produces such a commotion and change in the infant's body, that its effect is soon manifest in the tender affected part, though the change is in itself very imperceptible, as we see with regard to several other cases of the same kind in the human body; that the changes of the part affected spring from this source, is proved also, from this, that they always appear in the time of menstruation, and rarely at any other.

2. How comes it to pass, that after this crust, the skin is always the whiter, softer, and more beautiful? this I am apt to attribute to the great afflux of the humours, which are attracted by the part affected, whereby its fibres are relaxed, and become more soft and pliable; what is hard or coarse being thus carried off, whilst the heat and dirt dry up and harden the skin of such as have no *Crusta Lactea*.

3. It may be demanded, whether this evil may be communicated by contagion. The

nurses

nurses always apprehend this effect, nor can I blame them, so it be not carried too far. But in the mean time, I am not of opinion that it is communicable this way, as is the *Tinea*, of which we shall speak in the next chapter.

SYMPTOMS. Most of these are learned from what we have hitherto said of the state of the infant. Though the humour flowing from the affected part is mild, balsamic, and incapable of irritating; yet the pendulous moveable scab, by its inequality and roughness, compresses and irritates the subjacent parts, so as to force the child to scratch himself continually, and very often excoriates the part, especially when the scab begins to dry.

If the humour be abundant thin and ferous, it will flow plentifully. If viscid and in small quantity, it scarcely appears.

The accidents are much more violent, and dangerous, if the evil be repelled; for the blood being thus impregnated with a great quantity of the morbid particles, lodges them in several parts, according to their disposition. Thus they are sometimes thrown on the intestines, where they produce dangerous diarrheas; in the brain they cause
con-

convulsion; in the bronchia or lungs, violent coughing; in the stomach they produce inappetency, &c.

DIAGNOSTICS. From the description of the disorder appear its diagnostics, as also its prognostics, observing only, that it is no way dangerous, if it be left to itself, and not repelled.

CURE. As the blood is viscid in the *Crusta lactea*, and over-charged with milk, the child should be purged now and then with the syrup of peach-flowers, or the cathartic syrup of apples, or the compound syrup of suchory, to an ounce and half or two ounces of any of them, to which you may add occasionally, two spoonfuls of the tincture of rhubarb, or rhubarb in substance to a small dose.

But the best and safest method, if the scab be too large and requires our attention, is to change the infant's nurse for one newly delivered, whose milk being serous, will cure the infant without danger of repelling the morbid humours. But if this cannot be conveniently done, and the disorder still subsists, augments, and gives room to a troublesome irritation, let it be fomented
with

with a decoction of barley and mallow roots, for the first is deterfive, and the second relaxing and anodyne. Instead of this, nurses commonly employ some of the infant's urine, which has almost the same qualities. If the superficial ulcer under the scab be phagedenic and disposed to spread, it must be closely kept from the influence of the air, especially that part whence the scab has fallen. This is done by applying to the same parts a kind of pomatum, made by beating up the oil of sweet almonds with water, for all oils beat up and intimately blended with water, produce the same effect. But if the adjoining skin be considerably damaged, you may add to this pomatum a little tutty, litharge, or cerufs, reduced to impalpable powder.

C H A P. II.

Of the TINEA.

THIS cutaneous disorder attacks only the hairy-scalp. It is confusedly described by the *Greeks*, who called it *Keria*, and confounded it with the preceding disorder.

order. The *Latins* have treated of it more exactly: they gave it the name *Tinea*, from its likeness to the moth-holes in cloth; *Favus* from its resemblance to a honeycomb, being full of small holes, (which is also the import of the *Greek* *μηλον*) and *Acores* from the accrimony of the humours, which flow from the affected part. The *Arabians*, like the *Greeks*, confounded this with the foregoing disorder; they indiscriminately called them *Saphati* and *Asaphati*; they only added the epithets of dry and moist to these names, to distinguish, as it were, the different species of the same disorder. Thus far of the names; now of the description of the disorder.

It always affects the hairy-scalp, seldom or never the parts destitute of hair: the bulb or root of every hair in the affected part first begins to swell, then to form small ulcers, and as many imperceptible orifices, which daily augment and exude an acrid humour. These elevations may be of various bulk and number, of different colours, as yellow, grey, black, &c. according to the habit of the patient, and nature of the humours; afterwards the discharged hu-
mour

mour is gradually inspissated, till it forms a scab.

DIFFERENCES. The *Tinea* is either dry or moist; the first has no flux of humour, but the second an abundant one, of a serous, acrid humour, which cannot be dried. It is called *Tinea favina*, when it is like an honey-comb, *Tinea ficosa*, or *σύνωσις* in Greek, when the tumours are like small figs. It is also called *Tinea ulcerosa*, when ulcers sensibly appear; but these differences are of little moment. The *Tinea miliaris*, from its likeness to millet, is the first degree of the disorder; the next is the species called *Tinea favina*, which is full of ulcerated holes, like honey-combs, flowing with a yellow honey-like humour. The third degree is called *σύνωσις*, or *Tinea ficosa*, wherein the tumours are larger, and are interspersed with several red points like fig-grains. The last degree of the disorder is called *Tinea lupinosa*, from the resemblance of the ulcerated tumours to lupins.

CAUSES. As most authors who have treated as well of the disorders of children, as of those of adults, have given no satisfactory account of their genuine seat; so others

others have been at a loss for the seat of a gonorrhæa, the small-pox, measles, *Crusta lactea*, and many more; but in particular for the seat of the present disorder.

All are persuaded that the *Cutis* is affected by the *Tinea*. But the question is, what part of it? In order to discover the truth of the matter, let us observe, 1st. That in the *Tinea* the hair of the affected part is shed for want of nourishment, through the corrosion of their roots. 2^{dly}. That in order to cure it, all the hair of the part affected should be extracted. 3^{dly}. That after the cure this part is smooth, and without hair, which commonly remains so during the patient's life. From these observations we may conclude, that the evil is seated at the roots of the hair; now these roots, by one or many branches, are implanted in many small bulbs, or *capsule*, which correspond to the number of hairs; the rest of their description, for brevity sake, I omit; observing only, that they are so nourished with their lymph, that they grow only by the root, which is propelled and continually advanced; for they do not grow equally in their whole length like all other

other parts of the body. That the evil is seated in these *capsulae*, or at the root of the hair, is plain from the gradation of the disorder, first manifesting itself by small tumours, or pimples, at the root of every hair, then by the small pores or issues of the same; the shedding of the hair, till ulcers appear; and, finally, by the scab. But what produces all these effects? Nothing certainly, but an acrid nutritious lymph, which corrodes the *capsulae* and roots of the hair; wherefore, all things which are capable of rendering the blood or lymph acrid, may be esteemed causes of this disorder; to which, add the local disposition of the part which should concur with the former causes to produce the evil, and the greater and more intense these dispositions are, the greater the disorder will be, whether it be communicated by contagion, by the child's linnen, cap, or otherwise, which is very common, as the itch, &c. are communicated; or whether it proceeds from any other source; for that medicinal or physical axiom, is very true in this case, that *quid recipitur, ad dispositionem recipientis recipitur*. If the child's head be very
dirty,

dirty, seldom combed, and much neglected; the humour of transpiration being thus obstructed, renders the lymph of the above *Capsula* so acrid, that it may also give room to a *Tinea*.

SYMPTOMS. The *Tinea* begins to manifest itself by several imperceptible pores or small orifices, at the roots of the hair, which emit, by compression, a serous acrid humour, much like that which appears in the *Epulis*, or suppuration, betwixt the gums and teeth, from the *caries* of the latter. Soon after appear several small ulcers in the whole extent of the *tinea*, of a yellow, grey, or black colour, frequently fetid and dry. The crust or scab is formed of the small drops transfused by the orifices of these small ulcers, which are reduced to a proper consistence by the air, &c. The scab is of the various colours above-mentioned, according to the quality of the humour. They sometimes suppurate and spread very much, till they meet each other, and create several furrows, or eminencies and depressions, which according to their elevation, give ground for the appellations *favi*, *fici*, &c. If the ulcers be phagedenic, they spread

still farther. The hair is shed, their roots being corroded; and consequently, are no longer nourished; this gives room to several bald places on the hairy-scalp, which are called *areae*: if they fall off by locks, the disorder is called *Alopecia*; if the hair is shed all over the affected part, it is called *Calvities*, and the evil is easily communicated by contagion.

DIAGNOSTICS. What has been already said of the symptoms of the *tinea*, is sufficient to discover its existence; for it can hardly be confounded with any other disorder; if with any, its only with the *Crusta lactea*, and a kind of *scabies*, or itch of the hand: but the last is transitory, void of danger, attended with very small tumours, or superficial scab, rarely affecting any children but such as have too delicate and tender heads, too often exposed to the cold air; it is easily cured, and frequently disappears of itself. As to the *Crusta lactea*, it is distinguishable from the *Tinea*, inasmuch as the former commonly affects only very young children, six, ten, or fourteen months old, or thereabout, and such as are well nourished, and in good habit of body: it is also as apt to invade the
face

face as the head. It is attended with an entire crust without any perforations, but discharges much serum.

The *Tinea*, on the contrary, rarely affects children before the 3d, 4th, or 5th year, and such only as are very thin and ill-fed: it never passes the hairy-scalp, nor does it appear on the face; it is likewise full of holes, or small orifices.

PROGNOSTICS. The obstinacy, great danger and difficulty of cure of the *Tinea*, require absolutely, that it be distinguished from the *Crusta lactea*, which is easily removed, and without any danger, though it continues, so it be left to nature. This distinction we have already made. Nor is the *Tinea* so very dangerous, if not repelled; if it be, it may be attended by the worst of consequences, as epilepsy, blindness, deafness, palsy, obstinate rheums, and fluxions of the breast, slow fever, and its consequences, which commonly terminate in death.

CURE. As this disorder is very painful, and hard of cure, physicians seldom undertake to cure it before the 4th or 5th year of the child's age, though it appears much earlier. The most common and best method of

treating it by the ablest physicians, is as follows.

1. The general remedies are to be premised, as well in this as in all other disorders, to prepare the patient, and purify his blood; wherefore the physician should begin with bleeding, afterwards purging, then cooling broths, and afterwards proceed to the use of aperitive remedies, prepared from iron and mercury, which may be exhibited either by themselves, or in the above broths. A decoction of the woods, nay viper's broth, may be ordered, if the infant be fat, bloated, or phlegmatic: if not, let him be confined to a milk diet. But all these internal remedies are useless, without the external ones, on which we are mostly to depend, in order to cleanse and consolidate the part affected.

The principal indications for these remedies are to soften and carry off the scab, and to diminish the heat and pain of the affected part. To answer these intentions, let the part be fomented with a simple decoction of althea and barley; or if this is ineffectual, employ a decoction of litharge, tutty, of beet-leaves, wild-dock, and red-cabbage;

cabbage; to which is added, occasionally, the roots of elicampane, or the like: but the patient's head should be shaved before their use. If these remedies are insufficient to correct the evil, extract the mucilage of the seed of fænugreek and of flax, by boiling them in water to the consistence of a gelly: to this may be added, some fresh lard; with all which the patient's head is to be rubbed, or in its stead, may be applied in by way of cataplasm, your fine fresh cream or butter, which powerfully softens and dissolves the scab. If all these are unsuccessful, boil a small quantity of mustard-seed in fresh lard, of which make a pomatum, therewith to rub the affected part. The lard relaxes, and the mustard is deterfive; therefore 'tis a proper remedy in this case. You may also boil soap in water, and it will be serviceable for the same intent. If the scab falls by these methods, you will soon discover of what species the *Tinea* is. If any hair remains on the part, it must be extracted by the roots. Some authors recommend pincers for this purpose; but the operation is too long and troublesome, wherefore I would prefer the use of an adhesive

plaister, as a plaister of Burgundy pitch, which should be closely applied to the *Tinea*, and there left till it adheres very exactly to the hair; then it should be raised by degrees, and at different intervals, to create the less pain by the extraction of the hair; and in the same proportion as it is raised, apply a fine piece of linen covered with *Galen's cerate*, betwixt the elevated part of the plaister and the patient's head, in order to prevent their re-union. This operation is less painful than the former, so that the sound parts of the head be not covered with the plaister, which should be always avoided, and the seat only of the evil attack'd. When all this is done, employ gentle corrosive or catheretic remedies, to carry off all the bad flesh, and clear the part, as some do in other cases with the *Lap. Infernal.* But you are to order more gentle corrosives here, as the juice of the root Lady-seal, which is a little corroterfive, or oil of tartar *per deliquium*, or if it be necessary, order the phagedenic water of the gentlest kind, with which you wash the ulcer, especially the most sordid parts. Thus the ulcer is so mundified, that pure red flesh will soon rise, which ought to be dressed

dress'd with the common digestive, or the simple linimentum arcei, if the preceding cathartics are incapable of bringing the ulcer to a laudable state, employ your calcin'd alum, the infernal or caustic stone, and then return to your common digestive, and treat the disorder like a common wound. In several hospitals in France, the following pomatum is in great vogue with experienced surgeons.

*Rx Vitriol. vulgar. alum. rup. sulph. commun.
aa. p. æ. coq. in f. q. ol. laven. vel lard.
recent. f. pomat. quo inung. part. affect.*

Take of common vitriol, roach alum, and common sulphur, each equal parts, boil them in a sufficient quantity of oil of lavender, or recent hog's-lard, to the consistence of a pomatum, with which the part affected is to be anointed.

Though this is highly recommended by several, yet I think the forementioned remedies are preferable. The ulcer being once healed, order an issue to be made on the neck, to derive and evacuate the acrid humours by that

that part, which were accustomed to run before by the ulcer. Hence it appears, that several of the *Capsulae* of the hair are destroyed, and consequently that the patient after the cure has a bald head.

CHAP. II.

Of the PHTHIRIASIS, or MORBUS PEDICULARIS.

THOUGH this subject is very nauseous and disagreeable to the physician, yet he should not be ignorant thereof, nor neglect its treatment, being very troublesome, and even dangerous, to children. It may happen to all, but it is more frequently observable in dirty, neglected infants. Some authors report, that they have seen infinite numbers of lice on all parts of the body; that they not only appeared on its surface, but also betwixt the *cuticula* and *cutis*, forming whitish superficial tumours. This kind of *Pthiriasis* I never observed: but have frequently seen it in the head, especially of those who are infected with a *scabies*, *tinea*, or *crusta lactea*, of that part.

The

The better to understand the nature of these vermin, we shall distinguish them into three species, viz. those of the head, those of the trunk, and those of the parts of generation. Though the Greeks have given them no particular names nor descriptions, yet it is certain, that they are of three distinct species, and are different by their figure, nature, and seat. I can attest, from several observations made by the help of microscopes, that the vermin of the trunk differ in nature, figure, and seat, from both the other species, as the virtuosi also affirm.

The origin of *Pediculi* the moderns justly derive from eggs; for the axiom, *omne animal ex ovo*, is true in this case. These eggs in the head are small, round, and whitish tumours or *vesicles*, fixed to the roots of the hair. This vermin have distinct males and females, and are not hermaphrodites, as several authors have imagined. The males have four testicles. This discovery we chiefly owe to *Lewenboek*, who from his experiments thereon, merits to be read on this subject. *Valisneri*, who wrote in particular of insects, has made a great many experiments

periments on the same subject. They both evince, that the generation of these vermin, as well as that of all imperfect animals, is infinitely numerous; for they have computed, that one male and female louse, fomented betwixt the *cutis* and scarf-skin, in two months time, engender'd ten thousand more, which *Lewenboek* in particular has also attested; and the ancients, with some moderns, were of opinion, that the generation of these as well as of other animals, was owing to putrefaction: but repeated experience and reasoning have demonstrated the contrary.

Before we proceed any farther to this theory, it will be necessary to answer the following questions, 1. Whence spring the vermin of the head, particularly in such as have had none before? 2. Why some are more subject to them than others, whilst their *semina* may be equally in both? 3. Why the vermin of the head in some children, so obstinately resists the force of all remedies, so that they seem to be eradicable?

As to the first question, this vermin very probably spring from a dirty unclean nurse, as

as well those of the head, as the rest before-mentioned: for they never appear, if they be not communicated by a lousy infected person, to one that is not.

II. Some are much more subject to them than others, through their particular dispositions, inasmuch as they foment better the pedicular *semina*, as we see that some seeds grow better in certain lands, than they do in others, and that every country has its particular products, according to the nature of the climate and soil; all which is applicable to the generation of these vermin rather in some persons than in others. The most probable disposition observations could as yet suggest, is a thick insipid humour, with a dirty uncombed head, &c. Hence we see, that children of a cold phlegmatic constitution, full of a milky thick humour, are much more subject to vermin, than those of a thin, bilious, and hot constitution, whose humours are thin and acrid; for which reasons, adults are not so frequently troubled with these vermin, as children who have that quality in their blood, particularly such as have the *crusta lactea*, *tinea*, or *scabies* of the head.

III. This

III. This species of vermin is with difficulty destroyed, as often as they are plentifully fed and protected from the action of the remedies employed for their destruction. This is frequent in the *crusta lactea*, *tinea*, and *scabies*, especially when the scab has not fallen ; for the vermin then work themselves under it, and feed upon the purulent, or rather milky humour which flows from the affected part, where they are infinitely multiplied in spite of all remedies.

A singular fact, but no less true than any of the former, presents itself here : its detail is somewhat long : I have frequently observed it. This is a pouch, or kind of vesicular tumour, or large knob, without any orifice or other issue, full of vermin, which swim in a small quantity of purulent sanies, mostly observable on the head of some children. But how is this formed ? I own it favours pretty much the opinion of those, who held that vermin are engender'd in the very body, without any foreign *semina* ; seeing we can perceive no passage whereby they may enter externally. But we shall find this system ill-grounded, if we consider, that this vermin have a very fine sharp

sharp rostrum and head, whence they enter by the smallest aperture or excoriation, nay by the very pores of the skin, like mercury. Now let us suppose, that a male and female louse have got into one of these passages, and have lodged betwixt the *cutis* and *cuticula* at some distance, no passage will appear to the naked eye. These vermin will multiply, as we remarked before, and all their progeny will remain in the same place, whence this tumour will arise, as *Valisneri* has frequently observed in paralel cases; for seeing a person, who by scratching a small tumour had extracted many vermin out of it, the author remarked, and closely observed, that the several tumours of this kind, which the patient afterwards had, sprung from the ingress only of two lice into those parts betwixt the *cuticula* and *cutis*. Several instances of the like disorders in other animals may be cited. Into the skin, for instance, of cows, small flies enter in the summer time, which ingender in it, and appear the following season. Thus in all cornuted animals are frequently seen several flies, which enter into the *sinus frontales* in summer, and there produce small worms,

worms, whence spring flies in the following summer. Thus far of this theory; now of what is more medicinal.

SYMPTOMS. As the symptoms of this disorder are few and easily discovered, their detail will be short. The infant has a continual itching of the head, from the irritation produced by the many feet of these animals when they creep, and from their pointed sharp mouths. Hence spring perpetual agitation, uneasiness, and raising the hand every instant to scratch the head; so that the impressions may at last become painful, especially if the parts be excoriated, as in the *Crusta lactea*, &c. These symptoms being a little more intense, produce watchings, and at length a slight fever, which, by the obstinacy of the evil, and the exulceration of the part, being thus fomented, may at last degenerate into a slow fever, marasmus, and perhaps death.

DIAGNOSTICS. Nothing is easier than to know the existence of a *Phthiriasis* from the description and symptoms of the disorders above explain'd, from the greater or lesser number of vermin, the *crusta lactea*, &c. which accompany it, and which by the constant irritation

ritation, punction, and acrid faces of these animals, produce a malignant and obstinate quality.

PROGNOSTICS. To be short, this disorder is seldom mortal, if the irritation be not so intense as to exasperate the *tinea*, *crusta lactea*, *scabies*, or other excoriation, to such a degree as to produce a slow fever and *marasmus*.

CURE. The remedies employed in this cure, are internal or external. The internal remedies should chiefly tend to correct the peccancy of digestion, to create a laudable chyle, and prevent the spissitude of the humours: for this intent, let the child be purged now and then, as once a month, by the syrup of peach-blossoms, white roses, compound suchory with rhubarb, and cathartic syrup of apples, to an ounce or two of any of them; and you may add, occasionally, two or three spoonfuls of the infusion of rhubarb, or of *senna*; the cathartic syrup of apples, with the infusion of *senna*, are employed for the stronger sort of children. The syrup of peach-blossoms, or compound suchory, as occasion requires, are the next. The following powder is very much celebrated

brated for this purpose, it consists of absorbent remedies.

*R Corall. rubr. pp. ocul. cancr. pulv. viper.
aa p. æ. m. f. omnium pulv. cujus dosis
singulis dieb. aut altero quoque die fit ad
xv. aut xx. gr.*

Take of prepared red coral, crabs eyes and powder of vipers, each equal quantities : reduce all to a powder, of which fifteen or twenty grains are to be taken every day, or every other day.

Combing and washing the child's head, and taking all the other pains of that kind are useless, without the topical remedies : these are lotions, fomentations, unctions, powders, fumigations.

I. The lotions are made with a decoction of the roots of the round birth-wort, or elicampane, or briony ; of each an ounce ; to which add the leaves of purslain, wild mercury, sopewort, of each a sufficient quantity, these you boil in two or three quarts of water, to the consumption of a pint, and wash the patients head therewith, dipping

dipping a piece of linen in it, and applying the same to the affected part. To render this lotion the more efficacious, if the patient can bear it, dissolve therein a small quantity of sea-salt, or salt-armoniac, or nitre; for these salts not only cleanse the head, but contribute to kill the vermine: and though they irritate much in the beginning, yet by degrees the child may become so accusom'd to them, as to bear them easily.

2. If the preceding remedies will not do, you may have recourse to unctions, with proper liniments applied to the parts most affected. Let them be thus made:

Rx Sulph. commun. ʒj. ol. commun. vel laurin. q. s. bull. ad consist. ungent.

Take of common sulphur one ounce, and of oil of olives, or of bays, a sufficient quantity, boil up to the consistence of an ointment.

With this the patient's head should be anointed. It is tenacious, and will adhere to the head; whence its effect will hold the longer: or you may make your liniment

of the powder of *Staphysagria*, which in Greek signifies wild vine, and is esteemed so specific in the present case, that it has been called *Herba pedicularis*. Its dose is half an ounce, the powder of the root of white hellebor to two drams, boil them in a sufficient quantity of Narbon-honey, fresh lard, or laurel-oil; make an ointment, which is to be used like the former: but we are seldom obliged to have recourse to this method.

3. The simple powders are more in use, especially if there be a *Crusta lactea*, *Tinea*, or *Scabies*. For instance, the powder of the seed of *Staphysagria*. If this is ineffectual alone, add a fourth part of the powder of white hellebor, or of aloes; for these are the most specific remedies in this disease. Where the scab and matter in the above disorders are more abundant, apply chiefly the powder to that part.

4. Perfumes to the part affected are employed with success. They are made of the powder of the seed of *Staves-acre*, which is thrown on the coals, and the fume received on the affected part alone, if possible, avoiding

avoiding with care its influence on the nose, eyes, &c. If it be necessary to render this powder stronger, add white hellebor, or aloes.

After the cure of the disorder, we may make the two following reflections thereon.

I. Although mercury is the only specific and most powerful remedy that can be employed in the *Phthiriasis*, either in lotions, unctions, powders, or fumigations; yet we may as justly apprehend its bad consequences here, being immediately applied to the head, as we do in the treatment of venereal diseases; wherefore, if it be absolutely requisite, the most simple preparation I know of, is its *Amalgama* with gold or silver, wherewith the goldsmiths commonly rub these metals to polish them the better. The linen cloth with which this is rubbed to the said metals, may be also applied to the child's head, and will be very useful; its efficacy is owing to the mercury which it contains.

II. If the vermin still resist the power of all these remedies, and the patient has at the same time a *crusta lactea*, *tinea*, or *scabies* of the head, it is in vain to attempt

their destruction any farther, till these disorders are cured; then the vermin will yield more the easily to proper remedies.

CHAP. III.

Of the IMPETIGO.

THIS disorder is called *Mentagra* in greek; *Lichen*, *Impetigo*, *Ignis volaticus*, or *silvestris* in latin. Some call all kinds of *Impetigo*'s by the name *lichen*; but more judicious authors apply it to the present sort of *Impetigo*, to which is also justly applied the word *Impetigo* in exclusion to all the rest; and some of its species they call *Papulæ*, adding *beniquæ* or *malignæ*, according to their quality. As to the name *Mentagra*, it belongs rather to a more violent disorder, of whose qualities the present does not participate. It is called *ignis volaticus* or *silvestris*, as some disorders are stiled *ignis sacer* and *Perficus*; either because of the heat that attends it, or because it suddenly appears and disappears, in which sense the name is very applicable to it. Some attribute these changes of the disorder to the variations of the moon:

but

but we have refuted this opinion, speaking of another disorder before. It is mostly observable in children from six months old to the end of the fourth Year. In these it begins to appear by small red vesicles, or *papulæ*, which afterwards degenerate into *phlyctenoides*, having a whitish spot in the center of each *papula*. These are like a miliar eruption, appearing commonly on the chin alone, and thereabout. At length these tumours emit a viscid matter, which is dried, and turned to a scab on their surface. This frequently falls off, and the disorder quite disappears, without leaving the smallest vestigia or cicatrice, which argues that the cutis is not affected, but the cuticula alone. Its origin, progress, and declension are very like to those of the *Crusta lactea*, from which it seems at first to differ only in its seat, and by its obstinacy.

The seat of the *Impetigo* is in the sebaceous glands, or in the *cellulæ* of the *corpus mucosum*, but more especially in the former, and not profoundly seated in the skin, as some think; otherwise it would give occasion to proportional cicatrices; whilst, on the contrary, no such ever suc-

ceed the disorder. The sebaceous humour, through its spissitude, settles in these organs, obstructs them, and at length, by the acrimony of the matter, they are perforated, and the included humour transudes. But why should the *Impetigo* more frequently appear on the chin, than any other part of the face, head, or body, since the sebaceous glands are very numerous in all those places? I know no other answer to this difficulty, but the two following, viz. 1. That as this evil most commonly affects newly-weaned children, the habit they then contract of conveying several fordid dirty things to their mouth, to amuse their fancies while they think of sucking, disposes very much the chin to this disorder. 2. As infants are very subject to drivel vast quantities of saliva, those especially who are troubled with dentition, they are for this reason the more disposed to an *Impetigo* on the chin; because the inspissated saliva, like a plaister, stops the pores of the sebaceous glands; whence they are glutted and obstructed with their proper humours, which corrode them at length, and procure themselves a passage.

SYMPTOMS

SYMPTOMS. The symptoms of an *Impetigo* are very few, and almost confined to a little itching, which makes the infant uneasy, and obliged to raise his hands very frequently to the part affected, which he doth sometimes excoriate and draw a little blood. Nurses imagine the disorder to be contagious, therefore they take vast pains to prevent its communication : but I don't think that it is communicable, if the humours be not very acrid.

DIAGNOSTICS. Nothing is more palpable, than the existence of an *Impetigo* ; for as often as you observe the chin of a child, in the above circumstances, affected with obstinate small tumours, and a succeeding scab frequently falling off, and still returning and multiplying, you may conclude the disorder is the *ignis volaticus*.

PROGNOSTICS. This disorder is absolutely void of danger, if the patient be not very much neglected or ill-treated ; and the evil is easily removed by a proper method.

CURE. If the patient's age can bear it, let him be first treated with the general remedies, such as bleeding, purging, and me-

dicines proper to purify the blood, as diluting with whey, &c. and purging now and then, that by this means the source of the evil may be removed, before the use of topics, which contribute to repell it; though if the disorder be very slight and superficial, they may be applied without any internal remedies.

The topics employed here are the same with those ordered in all other impetiginous cases. A solution of common salt in water, may be first applied; for it deterges and dries the exulceration. If this proves ineffectual, let there be a decoction made of the roots of the sharp pointed dock, or common dock, in simple water, or, to render it more efficacious, in vinegar. If the decoction be made of the latter, it will irritate so much, that the patient can hardly bear it, if it be not prudently and gradually administer'd, till he becomes accustomed to it. If this is still insufficient, proceed farther, and prescribe a solution of gum Arabic, or cherry-tree gum, in vinegar; or, if necessary, order a mixture of flowers of sulphur and lemon-juice, which should be intimately blended and beat up together in a mortar.

mortar. If a more powerful remedy is still requisite, employ the oil of tartar *per deliquium*. If the infant be very young and tender, let this oil be diluted with a sufficient quantity of water. The oil of paper or corn is also successfully employed on the same occasion; both are made by setting them on fire, and keeping them very closely betwixt two plates, or other vessels, whilst they burn. The oils which are exhaled, are collected in small drops on the upper vessel. These oils, particularly that of paper, are very deterfive and deficcative. If you are still obliged to have recourse to more powerful remedies, you may take of common pomatum a sufficient quantity; so that to every twenty grains of the pomatum, you add one of red præcipitate, you'll have a very strong remedy. I have made this gradation of remedies, from the weaker always proceeding to the stronger, in order to give you an idea of the physician's conduct, which should be always so prudent, as not to precipitate the cure, by having recourse, at first sight, to the most powerful remedies, whilst more gentle ones may not only cure the patient, but do it without danger
of

of which the most powerful medicaments are not always void. Moreover this *Impetigo* is like a natural issue, intended to disburden the body of its superfluous noxious humours, which if suddenly stopped by the foregoing remedies, may have very bad consequences.

I cannot make an end of this cure without mentioning of a particular remedy, which, in the eyes of some, may seem to be a very odd and preposterous one; yet I have seen it produce surprizing effects in the cure of an *Impetigo*. It is very common in Languedoc, where the good women frequently make use of it. This consists in striking fire by a steel and flint, so that the sparkles may fall on the part affected. From what to derive the effect of this remedy, I know not, if it be not owing to the constriction of the fibres of the part through the impressions made thereon by the fire, whereby the stagnant humours are expressed, and the cause of the evil removed; just as it happens by immersing suddenly a strained member in cold water, which so constricts the fibres, that an inflammation, or other swelling, is prevented. But I imagine,

gine, that the first institution of this remedy is owing to the analogy, which these ignorant persons thought to have been betwixt this fire and the disorder, which they called *ignis volaticus* : from whence we may conclude, that several of the most efficacious specific remedies, have and may owe their discovery to meer chance.

CHAP. IV.

Of the INTERTRIGO.

WE find neither name nor description of this disorder in the Greek writers. The Latins call it *Intertrigo*, as if it were a superficial rupture, or excoriation of the skin from scratching.

The *Intertrigo* owes its rise to three causes, 1. The fordid and foul treatment of the child by wallowing in his excrements, which at length excoriate him, especially when his cloths are rarely changed : this cause is very common. 2. Though his cloths be frequently changed, yet if they be not put into a lye or lixivium, and well washed, they will be so hard and coarse, being still im-

impregnated with some parts of the excrements, though otherwise carefully washed, that they will excoriate the infant. 3. The acrimony alone of the infant's fæces, urine, &c. independant of the former causes, will nevertheless have the same effect. This is proved by frequent diarrhæas, or acrid urine, which rarely fail to excoriate children.

Though every one of these causes is capable of producing an *Intertrigo*, yet they do not equally act on all children; nay, on some they will have no effect, whilst on others they have their proper influence, all which depends on the particular dispositions of each infant, especially on the nature of the skin; for a child whose skin is hard and dense, will bear dirt, acrid fæces, and urine, &c. without any excoriation; whilst others of a more delicate, tender and thin skin, will suffer considerably thereby. Moreover, such as are very fat, or have several foldings in their skin, will therein retain the fæces so long, till by their delay they corrode and excoriate the parts; if special care be not taken to wash them very frequently, and keep them clean, turning by degrees these folds, till no dirt is found in their interstices.

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SYMPTOMS. The symptoms of this disorder, are very few, and almost confined to a little uneasiness, watchings, and sometimes a slight fever.

DIAGNOSTICS. The *Intertrigo* is easily discovered by inspection, and hardly needs any particular signs. For as often as we meet a fat plump child, of a white and tender skin, we may conclude, if he be excoriated in the groins, &c. that he has an *Intertrigo*.

PROGNOSTICS. The *Intertrigo* threatens the patient with no danger. The only thing that may be apprehended is the rickets, to which this disorder sometimes gives rise.

CURE. The principal thing in the treatment of an *Intertrigo* is to change frequently the child's cloths, and to keep him clean. If this won't do, let his sores be fomented with plaintain-water, or a decoction of the root of mallows, warm red wine, or all together, putting small pieces of fine linen on the excoriated parts. If the disorder be more considerable, and inveterate, an absorbent powder may be exhibited. Such particularly as is found in dry and worm eaten wood; which is a remedy well known to the good women, who daily use it to dry up those

those excoriations ; for want of this, you may order them mill-duſt. The meal, or flour on the ſurface of new-baked bread will have the ſame effect.

If the *Intertrigo* will not yield to theſe, we may have recourſe to more powerful remedies, which are to be ſought for in the apothecarie's ſhop : theſe are the powder of ceruſe, that of tutty, or the white ointment of rhazes.

As to the diarrhæa, acrid fæces, or urine, ſince nurſe's milk commonly produces them in children, her temperament ſhould be rectified, and the peccancy of the humours corrected : wherefore ſhe is to take pullet-broths, in which are boiled cooling emollient plants, or other remedies proper to correct the acrimony of the juices. If this cannot be eaſily done, and the diarrhæa, acrimony of the fæces and urine, ſtill continue, it will be expedient to change the nurſe, for another whoſe humours are more baſfamic. If this does not meet with ſucceſs, order ſome gentle aſtringent clyſter for the patient.

Of

CHAP. V.

Of the CRINONES.

IN children, are sometimes observ'd betwixt their shoulders, or about their loins, a great Number of coarse black hairs, called *Crinones*, from their likeness to the bristles of swine. The Greeks and Latins have not spoken at all of them. The German writers, through a corruption of the above name, call them *Comedones*, some call them *Setæ* for the same reason. In *France*, they are called *Moustaches*, being supposed to affect none but male children. These hairs are very coarse and strong, whereas the hairs of children are commonly weak and pliable. They disappear in cold weather, and become more conspicuous by heat, so that the skin where they are lodg'd, is all black. By frictions, particularly of sweet substances, as breast milk or honey, they grow longer. several systems have been framed about the origin and nature of these hairs. The ancients imagined, that they were produced
by

by the excrements of the third digestion. Afterwards some suspected they were animals; and at length, this notion has been confirmed by the help of microscopes, which discovered these hairs to be real Insects, having a distinct head with a pair of eyes, and a tail divided into three parts. Their heads are inserted deeply in the skin, which they retract, or extrude, more or less, according to the various degrees of heat or cold, or by the frictions of sweet substances. *Et-muller* has accurately described them in his practical works.

We are now to examine in what kind of pores these animals were lodged. I am of opinion they are implanted in the excretory ducts or pores of the sebaceous glands; because the oily viscid humour of these organs is very proper for the nutrition of such animals. Moreover, the sebaceous glands are very numerous betwixt the shoulders, and in the loins, where these animals are commonly observed. But why are not they also met with in the head, &c. since these parts are well furnished with such glands, as we observed in treating the *Crusta lactea*? The reason of this, I suppose, is, because the
head

head and face are too much exposed to cold, which these animals avoid, whilst the other parts are warmer, and consequently better adapted to the nature of the *Crinones*.

As to their origin, they do not spring from putrefaction, nor am I acquainted with the cause of their production, no more than I can determine into what they degenerate in the end. They rarely affect any but very young, and well nourished children, whose humours are copious and balsamic.

SYMPTOMS. Restlessness, agitation, and watchings, are caused by these animals, probably because they irritate the patients, who likewise become very thin and lean, either for want of rest, or through the consumption of the nourishment by these insects; and in consequence of this, a slow fever and rickets frequently supervene.

DIAGNOSTICS. This disorder, if not manifest of itself, will become so, by exposing the infant's back to the fire, or rubbing it with honey, milk, &c. It is uncommon in Paris, and in countries moderately cold, but frequent in such as are hot.

PROGNOSTICS. The *Crinones* are no way dangerous of themselves; they are also

easily cured, and commonly disappear in process of time.

CURE. Among the medicines employed in the treatment of this disorder, topics are the most considerable: yet the general remedies should be always premised, especially if the patient be fat, plethoric, or full of crudities. In which case, let him be purged with compound syrup of Rhubarb, or if he be too young, tender and unable to bear the immediate action of the cathartic, let it be given to his nurse, whose breast-milk will sufficiently purge the infant. Afterwards let him take this absorbent powder.

*Rx Ocul. cancr. & corall. rubr. pp. kinekin.
aa. p. æ. m. f. pulv.*

Take of crabbs-eyes, prepared red corall, and peruvian bark, of each equal quantities; reduce to a powder.

Taking at the same time pullet broths, wherein are boiled cooling plants.

As to the topical remedies, they are easily prepared. To make the hairs or insects appear more perceptible, let the infant's back be

be exposed to the fire, or a friction made with milk or honey. When the insects manifestly appear, let them be rubbed hard with a warm linen cloth, and most of them will be extracted thereby. They may then be observed by the help of a microscope on the cloth; though by the friction, some of them have been mangled. This method is commonly sufficient to destroy these insects; yet some have invented another, which they borrow from the manner of extracting the hairs or bristles of swine, *viz.* by rubbing the skin very hard with a double linen cloth, in whose folds are included some hot ashes. Some shave of these hairs, but the heads of these animals still remain implanted in the glands, and the operation is troublesome to the infant; so that the first method is preferable. If the insects still resist all your efforts, employ the specific remedy, *viz.* a decoction of staves-acre, or sharp pointed, or common dock, or a little mercurial ointment; or, finally, the skin employed by Goldsmiths to burnish their gold and silver work, for they commonly add a small quantity of mercury to it.

You are to observe, that some authors through a mistake, call these insects *Cridones*; wherefore, in such writings, if you find any chapters of the *Cridones*, you are to understand them of the *Crinones*.

CHAP. VI.

Of the HYDROA, or SUDAMINA.

THE Greek writers call this disorder ὑδρῶας, which signifies *Sudor*; the Latins call it *Sudamina*, for the same reason. It consists in a prodigious number of small or miliary pimples, which succeed considerable heat and sweating. They are very red, inflammatory, and pruriginous, till the heat begins to decline; and at length they disappear without leaving any marks, only in those who have a very tender, delicate skin, the cuticula scales off like meal.

CAUSES. As the seat of the *Hydroa* is in the sudorific glands, it springs very probably from the redundance or acrimony of that humour. The latter irritates and inflames

flames the glands, the former distends and obstructs them. Their red colour and inflammation is owing to the stagnation of the blood. Their itching proceeds from the irritation or distention of their nervous fibres. The tumours also preserve the conic figure of the glands. As to the symptoms they are few; the skin is hot, dry, farinaceous, and itching; whence the patient is restless, subject to watching, and sometimes to a slight fever. The Diagnostics are easy; for by inspection, and a little examination, the existence of the disorder is learned. As to the Prognostics, the *Hydroa* is no way dangerous.

CURE. Let the patient be lightly covered and his clot is frequently changed; let him also be kept in a cool place, and lye in clean linen in the afternoon, or during the heat; thus the tumours will vanish at last by the change of the season: but if they be too obstinate, order a decoction of marsh-mallows and milk. If they degenerate into a sort of impetigo, order *Galen's Cerat*, which is made of wax and the oil of sweet-almonds, boiled to a proper consistence. You may add a little vinegar, or frog-spawn water,

or boil these with wax, and anoint the tumours therewith ; the patient must abstain from all salt and spiced meats, wine, &c. and let him take for his ordinary drink, pullet broth, or mineral waters ; he may also drink of barley-water, or water mixed with lemon-juice, and use moderate exercise.

C H A P. VII.

Of CHILBLAINS.

THIS evil rarely affects children till they are about the fourth year of their age. It is universally known : The Grecians call γειμεολον or γειμεολα, *malum* or *ulcus hybernum*. It is called in Latin *Perniones*, *quasi ad finem pernae*, or an ulcer about the heel. It commonly happens in winter, and is considerably swelled, and somewhat painful, red and hot in the cold ; but extremely itching in the heat. These tumours or ulcers remain a long time before they suppurate, and are difficultly resolved, till by the rarefaction of the blood, they vanish at the approach of spring. They frequently become ulcerous, through

through the bursting of a transparent vesicle, which appears in them; soon after they corrode and destroy the cutis only, if they be not malignant, or in a scrophulous patient; in which cases they extend themselves very far, nay destroy all before them, till at length they render the very bones carious.

The extremities of the body are the common seat of this evil, as being mostly exposed to cold, such particularly as the heels; nor are the fingers of the hands, or extremity of the nose, exempt from them. They are fomented the longer in the heels through their compression by the shoes. These ulcers are very difficultly cured, and almost never till the warm weather begins, if the patient does not constantly keep his bed.

CAUSES. *Chilblains* spring from the infarction of the lymphatic vessels in the affected parts, whereby a spurious phlegmon, not a genuine inflammation, is produced at length; for those tumours have not sufficient heat, pain, or redness to characterize them inflammations. The lymph thus stagnates through its spissitude from any intense cold, particularly in infants, all the

humours of whom are naturally viscid and oleaginous; whilst persons who have a more vigorous circulation, and consequently thinner humours, are not so subject to this evil, as we observe in adults and lively children. On the contrary, phlegmatic, cold persons of all ages are very much disposed to them. From this it appears, that in all parts, where the motion of the lymph is slower and weaker, these tumours will be more frequent, as in the heels, &c. where they are fomented the more, through the constant necessity of walking, the compression of the shoes, and the parts being very much exposed to the injuries of the weather.

SYMPTOMS. The symptoms of *Chilblains* hardly deserve any detail; but in short, the tumour is hot from the stagnation of the blood in the capillary arteries, through the compression made by the lymphatic infarction. The pain, &c. is augmented in the cold, through the constriction and distraction of the fibres. The itching which happens when near the fire, &c. is owing to the agitation and distension produced by the rarefaction of the congealed lymph. As to the Diagnostics, the disorder and its
various

various degrees are palpable. The Prognostics are not dangerous upon any account, if a caries does not supervene; but this is an extraordinary case, and rarely happens, except when the patient is scrophulous, in which case the caries should be rather derived from that virulent quality of the humours than from the perniones.

CURE. The treatment of *Chilblains* is prophylactic or curative; the former is intended to prevent the evil in such as are accustomed to it; the latter to remove the disorder after it appears.

A prophylactic cure of *Chilblains* is very difficult, for they commonly return in the cold weather in spite of all remedies, till time and age fortify the parts which were weakened by them. Nay, this natural prevention is also very slow: For the parts once affected, are the more disposed to this disorder the following winter, and they commonly remain tumified; yet, to assist nature, the following precautions are to be observed:

1. Let the patient guard against sudden cold; and if he thus exposes himself, let him immediately afterwards avoid sudden heat, for by sudden cold the lymph is inspissated,

spissated, and by the ensuing heat, so rarified, that as the stagnant lymph is expanded, its receptacles are the more distended, weakened and infarcted. Wherefore the heat proper in this case should be a gradual one, excited by moderate exercise.

2. Let the parts subject to this evil, which are most commonly the feet or hands, be bathed every night, or thrice a week, with a decoction of radishes; for the volatil astringent parts of this plant, fortify the weakened members.

3. Hot ashes applied betwixt cloaths to the tumified parts, have successfully reduced several of these tumours, by the astringent salts they contain.

4. Simple vulnerary liquors, or camphorated brandy, animate the languid circulation, and corroborate the affected part. The patient's stockings may be also moistened with any of these liquors at night, during which time they may be worn. Some recommend the straw-berry bush, or its fruit, to be used in this case; but these are useless.

In order to the curative treatment, a decoction of radishes may be likewise employed, or that of marsh-mallow roots, in which
you

you dip a linen cloth, and apply it to the part affected. The same method may be used with warm red wine, vulnerary water, or camphorated aqua vitæ; or make a liniment of equal parts of wax, oil, and venice turpentine; or, make it of bay-oil, honey, and turpentine, which is an excellent ointment for *Chilblains*. If the inflammation be more considerable, put some oil of roses into a large raddish, bake it under the ashes, and apply this pulpous matter afterwards to the tumour. If the part be ulcerated, apply the preceding remedies to the circumference of the ulcer, and the plaister of ointment of tutty, the plaister of ceruss, the mucilage plaister, or that of diapalma to the ulcer, Let the patient walk little or none, wear no shoes, and let him, as we have above-mentioned, industriously avoid the cold.

C H A P. VIII.

Of the TUMIFIED GLANDS of CHILDREN.

CHILDREN are subject to tumours of the conglobate lymphatic glands of the groins; but especially of the neck, &c. so that

that the obstructed glands of the groin frequently hinder them from walking, or render it very painful; and the obstruction of the axillary glands impedes very much the motion of their arms.

The common people, nay some surgeons, are so prejudiced, that they erroneously attribute these tumours to the infant's growth, of which they affirm these obstructions to be usual signs. But if this was true, these glands would augment and decrease according to the different stages of growth; the infants also would grow whilst they are subject to them, and they would have no other bad consequences. On the contrary, such children frequently remain dwarfs all the days of their life, or their bulk and stature is at least diminished, while they have such tumours; nay, the glands are sometimes obstructed to such a degree, as to become phlegmonous. Wherefore, the most genuine cause of this evil is the spissitude of the lymph, which so obstructs and distends these glands, as to make them compress the capillary arteries, and by that means induce inflammation. The great cold, to which the feet are more particularly exposed, inspissates the ascending lymph, and disposes it to obstruct
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the glands of the groin; the same thing may be said of the lymph of the head, &c. when the lymphatic glands of the neck, or axillary glands, are obstructed. That this sentiment is just, appears manifestly from the numerous obstructions of glands in the winter, especially if it be intensely cold, as was the last in 1740. Supperated *Chilblains* likewise inspissate the lymph, and render it more acrimonious by the mixture of the purulent matter which is absorbed. The purulent disorders of the head, for the same reasons, give rise to the obstructions of the glands of the neck, &c. Too much exercise, particularly hard walking, through the continual expression and rapidity of the circulation of the lymph, so fills the glands, as to obstruct them, and for this reason, we observe, that children who over-walk themselves, have the glands of the groin very much swelled the day following.

Nothing considerable is to be remarked in the symptoms, diagnostics, and prognostics of this disorder.

CURE. These glands are easily dissipated by sufficient rest and tranquility. If this proves unsuccessful, let them be rubbed with

with oil of chamomile, and kept warm; or let the patient receive on the affected parts the fume of rosemary, amber, or cotton perfumed with the same things. Let him drink plentifully of the infusion of tea, or vulneray plants, in order to dilute his lymph. If the evil be too obstinate and considerable to yield to these methods, employ bleeding, the mucilage plaister, or one prepared of the crumbs of bread. But these remedies are not commonly necessary.

C H A P. IX.

Of the EXCORIATIONS of INFANTS.

THE two preceding disorders are incident to children from four to fourteen years of age; but the present only while they are in their swadling cloths. These excoriations are most frequently observed about the posterior parts of the infant's ears, &c. an acrid thin humour first flows from the excoriation. This gives room to *Rhagades* in the same place; from these flows a corrosive purulent sanies. This part is the more subject to this evil, because it is furnished

nished with a great number of sebaceous glands, which emit so much humour, that it forms a crust thereon, stops perspiration, and renders the humours more corrosive. The evil is promoted the more, because the infant cannot move his head, being obliged to keep it in the same attitude by the several bandages and other things used in dressing him.

CURE. Slight excoriations of this kind hardly deserve to have their cure attempted; on the contrary, they should be encouraged to give free issue to the infant's acrid and superfluous humours. But if they be considerably inflamed, and the patient restless, &c. foment them with the waters of balm and marsh-mallows. If these are ineffectual, add powder of tutty, or lytharge; or make an ointment of one or other of these Powders, with oil of sweet almonds. If the cavity of the ear be attacked with a burning heat from the quantity and acrimony of the *Cerumen*, rub it off, and wash the part with the above waters. But if this be neglected, and the part is excoriated through these faults of the *Cerumen*, employ some anodyne remedies, as oil of sweet almonds,

almonds, a few drops of which are to be instilled into the ear. The oil of eggs is useful for the same intention. Let the ears be thus kept clean, and the evil will be prevented, or removed, if only superficial. But if it has degenerated into an ulcer, inject, by the help of a proper syringe, a decoction of barley, mixed with the oil of roses; or if you want a more deterfive liquor, let it consist of a decoction of worm-wood, mixed with the commander's balsam. If you want to render it still more powerful, add to the above decoction some drops of the tincture of myrrh.

CHAP. X.

Of the vicious Conformation of the FRÆNUM LINGUÆ, or BRIDLE of the TONGUE.

AFTER the cutaneous disorders of children, the next of their superficial indispositions, are those of the mouth, which may be reduced to four. 1. The imperfection of the *Frænum Lingue*, particularly its too great shortness. 2. The *Ranula* or *Batraction*.

Batraction. 3. *Aphthæ*, or *Thrushes*. 4.
Dentition. We shall here speak of the
 first.

The tongue is naturally connected with the fund of the mouth, by the help principally of the muscles, called *Geniohyoidei*, which are inserted on the fore part, under the point of the tongue, where we meet a duplicature of the skin which covers the mouth, forming the *frænum linguæ*. This is sometimes so advanced under the tongue, that the point of this organ cannot be folded or turned back to perform it's necessary functions. Hence this is a disorder of vicious conformations. The midwives prudently anticipate the physicians or surgeon's advice in this case; for immediately after the child is born, whilst the ligament is still very soft and tender, they break it's superfluous connection with the tongue by the help of their nail; which if it be not timely done, or if the bridle is too rigid and hard to yield to this method, the nurse soon feels the inconveniency thereof, by the infant's manner of sucking; or it becomes manifest at last when he begins to speak, at which time as the bridle is harder, the

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operation

operation or incision should be performed by the help of the knife, or, which will do better, by the scissars, putting the patient in a proper and commodious situation. If the operator's fingers be too thick, so as to intercept his sight, let him keep the infant's mouth open by the help of a forceps intended for this purpose; but let him always avoided opening the veins and arteries called *ranula*, which are in this part, nor should the incision be too profound, for fear of hurting the tendons which are near the *frænum*. After the operation is performed, the patient's mouth should be rinsed with pure red wine by itself, or mixed with water; or this may be done with a decoction of barley and honey of roses, or with simple honey. The cicatrice is soon after formed. But the surgeon is by all means to prevent the reunion of the parts, which were disunited by the operation.

CHAP. XI.

Of the *RANULA*.

THE *Ranula* in Latin, *ῥαρχιον* in Greek, both which signify the same thing, is a disorder very rare in some countries,

tries, but more frequent in others. It is a lymphatic infarction of the *ranular* glands which are situated at each side of the *frænum*, and receive most of the lymph of the tongue. The tumour is a *medium* betwixt a phlegmon and oedema, or participates of both. It is discovered by the touch; for it sometimes appears under the lower-jaw; tho' this is rare. It is generally manifest to inspection, and commonly springs from sudden cold, to which the infant is exposed, or from indigestions. It is also more frequent in spring, than in any other season.

CURE. To resolve these tumified glands, the child should be kept very warm, and his nurse should drink plentifully of a diluent diuretic ptisan of Dogs-grass, and other such ingredients, in order to discharge the superfluous humours by urine, whilst they are to be exhaled from the obstructed parts by the help of the following topics, which are to be employed in the following order, as the state of the patient shall require.

1. Apply warm ashes, put betwixt two folds of linen, to the patient's chin, and as soon as one grows cold, let another be ready for the same purpose.
2. If the former is ineffect-

ual, let some partly be fried with oil of olives, or sweet almonds, and applied in form of a *cataplasme* to the same part. 3. If more powerful remedies are wanting, employ the fumes of amber, or apply cotton impregnated with the same to the patient's neck and chin; or the fumes of aromatic plants, as of thyme, or rosemary may serve: some likewise recommend suffumigations of bran. 4. Drench some cotton in warm oil of *chamomile*, or get some *lana succida*, which is the most greasy wool of sheep, particularly, that which is found on the necks, of such as are alive. This you warm and impregnate with warm oil of sweet almonds, then apply it as the preceding remedies. The two last, particularly the *lana succida* is a powerful resolvent, because of the sheeps transpiration. If the infant be strong or old enough, and the evil still subsists, bleed him, and let him take some gentle purgative clysters. If the tumour, instead of resolution, tends on the contrary to suppuration, in spite of your endeavours, accelerate the latter by a *Cataplasme*, made of the figgs of *Marseils*. The tumour will soon burst by these means of itself, and that commonly into the patient's mouth,

mouth, where it finds less resistance, and the succeeding cicatrice will be very little; but if it be open'd with the knife, let the orifice be ever so little, a large and troublesome cicatrice will ensue. Whether it be open'd by art or nature, the abscess should be expressed, deterged and consolidated, and treated like all other ulcers.

CHAP. XII.

Of THRUSHES, or, APHTHÆ.

THRUSHES frequently begin by small whitish vesicles, called *Dipnoides*, which terminate in several small and round ulcers. But the most genuine *Aphthæ* are a sort of *Phlyctænia*, which, when broken, yield an acrid *Sanies*. They are commonly seated on the lips, gums or tongue, especially, it's top and sides, and they frequently arrive at the fauces. By considering the structure of the skin of these parts, and the *mucous*, or, which are the same, the *Sebaceous glands*, wherewith these parts are furnished; it is evident, that these glands are the seat of this disorder, as well as of the scurvy; for these

glands naturally secrete a viscid humour, which puts on various colours and consistences, according to the degree of heat and adustion of the tongue, which are more manifest on its top and sides, through the greater number of those glands in those parts; whence *Aphthæ* are so common there in in most intermittent fevers. The disorder once begun, spreads insensibly from one vesicle inclos'd on all sides, to another, and so forth. The humour of these glands in it's natural state is very mild, balsamic, and intended to wet and lubricate the mouth, and it's contents. The causes of *Thrushes* may be reduced, 1. To the redundance of this humour. 2. To it's acrimony. 3. To the concurrence of both these causes.

1. The redundant humour swells the glands beyond their proper tone; stagnates in their cavities, compresses the adjacent blood vessels, and induces a slight inflammation; whence the basis of each tumour is surrounded with a red circle.

2. The acrimony of the humour, independent of it's redundance, is capable by erosion to induce inflammation and spread the evil. The center of each tumour, is commonly

monly depressed and sunk lower than the rest of it.

3. The explication of the two preceding causes makes the third, which is a combination of the two, sufficiently manifest: observing that this cause will be more intense than any of the former. Thus far of the conjunct causes, and the causes which give rise to these, are also evident. We shall only enumerate the usual causes of the acrimony of the mucous humour, which is the most frequent occasion of this disorder. This humour then, like all the others of the body, derives it's acrimony from the blood, which is thus infected from the nurses milk, which becomes acrid by violent passions of the mind; excessive exercise; drinking too much wine, or other spirituous liquors; frequent menstruation; or the infant's indigestion; or, if the nurse's milk is so little, as to oblige the infant to suck too hard and with violent efforts, all the parts of his mouth are put into such an heat, that its humours become acrid, and give rise to *Thrushes*, which may also spring from a venereal virulence sucked in from the mother.

SYMPTOMS. The child's mouth is inflamed, and consequently hot, red and painful, through the acrimony and irritation of the morbid humours. Hence he suffers considerably in sucking; he is restless, sleeps very little, and at last a fever is excited.

DIAGNOSTICS. The existence of the disorder is evident to the touch and inspection, the nurse alone may evince it, for her nipple is commonly affected with the same evil.

The different causes are more difficult to be accounted for, but we may impute the disorder in general to the nurse, for let us suppose, that the infant is naturally thus disposed, yet if the nurse's milk be good, it ought to correct this vicious disposition of the infant. If the evil does not rise from this cause, it must necessarily proceed from the nurse, so that she is blameable in both cases. As to the distinction of the ordinary and venereal *Thrushes*, the former are mild, benign, few in number, and make slow progress; but the venereal *Aphthæ* are very numerous, contagious, and spread predigiously, in a short time.

PROGNOSTICS. *Thrushes* of infants are never dangerous, or very rarely threaten bad consequences, if they are benign; in which case they are easily removed by changing the nurse.

CHURCH. If the infant's mouth be very hot and painful, he may be blooded; and if he be old or strong enough, let him be purged with compound syrup of succory, adding a little of the powder of rhubarb, according to his age and strength.

After purgation, let him take the common remedy, or the absorbent powder of crabs eyes, prepared hartshorn, diaphoretic mineral, the peruvian bark and the anthelmintic powder; or, what I have frequently prescribed with great success in this case, the *pulv. temperans* of Doctor Stahl. These may be exhibited in the child's ordinary drink, or meat, and these are the internal remedies used. Now we come to those of the topical kind, which are to be employed in the following manner, beginning with the mildest sort.

If the evil be mild, bathe it with a decoction of barley mixed with honey of roses, or with a decoction of the leaves of plantain,

plantain, houseleek, and those of the lesser wild daisy, with honey of roses; in this you dip a linen cloth and foment the tumours therewith.

2. If the tumours or ulcers be more obstinate, make a decoction of birthwort and gentian; the decoction should be more or less strong, according to the intensity of the evil.

3. If these are still insufficient, order decoctions of barley, with honey of roses and lime-water; or syrup of mulberries, in common or vulnerary water: or dissolve some of Lanfranc's Collyrium in red wine; or, finally, pour a few drops of the spirit of vitriol, in a sufficient quantity of honey. With one or other of these, according to the state of the patient, the ulcers are to be touched, and they commonly yield. Our peasants frequently and successfully employ olive-oil for this purpose, which proves beneficial, because it is deterfive; but it should be used warm. For the same intention may be usefully employed, oil of turnips, or rape oil. The Thrushes generally yield to these remedies; but if they still subsist, the nurse should

be changed, and another employed, whose breast-milk is recent, diluent and cooling.

CHAP. XIII.

Of DENTITION, and its Consequences.

AMONG all the disorders of children, this is the most peculiar to them. Tho' they are commonly born without teeth; yet some have them when they first come into the world; but this does not hold universally, since in all my practice, I have seen but two examples of it.

Infants begin to have teeth about the seventh, eight or ninth month, and they rarely are without this symptom, till the twelfth. The *dentes incisivi*, particularly, of the inferior jaw, first appear, commonly two in number, soon after two more in the upper jaw, and so forth successively. Yet I have sometimes observed four in the lower, before any appear'd in the upper jaw. The *dentes incisivi*, thus present themselves by pairs, or one by one. In two months afterwards, the *dentes canini* grow in the same order. About
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the sixteenth, seventeenth or eighteenth month, four of the *dentes molares*, force themselves out in both jaws, on each side; two in the upper, and two in the lower jaw; in four months after these *dentes molares* appear, more of them advance, in some sooner, in others later. About the fourth year, others appear, till about the seventh year, all, except the four hindmost of the *dentes molares*, become conspicuous; but these hardly appear before the twenty-first or twenty-second year, whence they are stiled the teeth of wisdom. At the seventh, eight, and sometimes the ninth year, some of the *dentes incisivi*, or more frequently of the *canini*, or foremost *molares* fall.

After this general account of the teeth, we shall now consider their disorders. When the teeth therefore begins to break out, as many tumours, or excrescences, appear in both jaws, as there are teeth ready to make their eruption, so that the jaws, in the language of the good women, are double. These tumours daily increasing, bring on an erysipelatous inflammation, attended with great itching pain and heat. At length the
middle

middle of each tumour grows whitish, a transparent vesicle is formed on it, and the extremity of the advancing tooth appears. At this time, the tumid jaw sinks, but you are to observe, that the greater and larger the tooth is, the more violent the pain will be. Hence the *dentes molares* cause more pain than the *dentes canini*, and these than the *dentes incisivi*. This appearance of the teeth is frequently brought about by nature with but a few troublesome symptoms, nay, sometimes without any at all; though at other times the disorder is accompanied with those of the most violent kind.

To judge the better of the nature of this disorder, the structure of the teeth, and of the cavities in which they are lodg'd, is to be consider'd. In each jaw-bone there are as many cavities, called *alveoli*, as there are teeth; the cavity intended for each being proportioned exactly to its dimensions. In tender infants there are *germina*, or buds, resembling almonds by their consistence and colour, sometimes three or four in each socket, the one over the other, especially, in the cavities of the *dentes canini* and *incisivi*, which provident nature has intended for

for the future teeth. These grow hard, particularly the superior ones, till they acquire the ordinary consistence of teeth; the most advanced of these germina being hard, commonly fall about the seventh year; either because their dimensions are contracted, and consequently grow too little to have any connection with the sockets; or because they are pushed out by degrees by the subsequent germina. Sixteen of the foremost teeth, or of the *incivisi* and *canini*, commonly fall by this *mechanism*. The troublesome symptoms which they induce, mostly spring, 1. From a thin bony lamina of the jaw, which the teeth by their eruption are to overcome. 2. The *Periosteum* which covers this lamina. 3. The gums which cover the whole. These obstacles offer themselves to the eruption of the teeth, which they frequently overcome, without any bad symptoms, especially, if the opposing parts above mentioned are soft, the growing teeth small, and only one, or few of them at a time piercing through: but dangerous symptoms are excited, if many teeth grow up at once, through the equal growth of their germina; or if the teeth are very large and blunt; for
small

small and sharp ones pierce easily. For this reason the *dentes canini* produce less terrible symptoms, than the *incivisi*, and these than the *molares*. Lastly, if the *lamina ossea*, and other obstacles are hard, as a compact *periosteum*, hard and tendinous gums, and particularly if the teeth are close, the symptoms will be proportionally violent. For the greater the surface of the advancing teeth is, the greater opposition they will meet. These symptoms are also more or less intense, according to the child's age, for a tender age being attended with a very soft texture of the whole body, offers less resistance, than a more advanced one. An inflammatory disposition of the blood, or a hot constitution, contributes to render dentition more painful. Toething in winter and summer-time, is more dangerous than in the other seasons. In winter the gums are more dense and compact, and consequently resist more. In summer, toething is very apt to give rise to an inflammation of the gums, a fever, or a diarrhæa, through the dissolution and rarefaction of the blood: besides these, a thousand other particular causes may be remarked in this case.

SYMPTOMS.

SYMPTOMS. Pain, heat and redness of the gums, owing to their constriction and inflammation, first appear. The gums also are large and thick about their basis, but sharp and edged at the points of contact, and this form is more manifest when the teeth begin to appear. If the gums be pressed with the finger, they whiten in the compressed part, and, by removing the finger, they immediately grow red, through the sudden reflux of the blood. The patient continually spits more or less abundantly, according to the intensity of the pain, whereby the *salivary glands* are thrown into *sympathetic contractions*, as it happens from keeping a pepper-corn in the mouth. A *diarrhœa* frequently supervenes from the continual pain, watchings and other symptoms of the disorder, particularly, from the indigestions and the vicious preparation of the breast-milk in the patient's stomach: to which add, the deglutition of an acrid hot saliva. Convulsions happen from the pain and division of the nervous sensible parts by the teeth. A fever from all the preceding accidents is kindled, particularly, from a crude ill corrupted chyle. In consequence of the fever,

a droufness sometimes happens, especially, if the fever be considerable. From the irritation of the mouth, arise several small vesicles, which degenerate into small ulcers, thrushes, and sometimes into a gangrene. The patient is sometimes constipated, which is commonly the fore-runner of great danger.

DIAGNOSTICS. *Dentition* is very easily discovered by the infant's age, inspection of his mouth, and relation of the nurse, who will inform you whether a part, or all of the jaw is swelled, and whether the whitish points or extremities of the teeth begin to appear.

PROGNOSTICS. Some children suffer no pain by *dentition*, others very much, and some die of it; wherefore in order to make a just prognostic, the number of the growing teeth, the state of the jaws, the patient's age and constitution should be considered; for many teeth appearing at once in a grown child of a hot constitution, and in the summer time, threaten more danger, than the contrary dispositions. A spitting is a salutary sign, because it refreshes the inflamed mouth, and relaxes the gums. The *diarrhæa* is also favourable; because it helps

to prevent a fever, which if acute and ardent, the danger is great, as we commonly observe in a considerable constipation. Convulsions, epilepsy, and drowsiness, are still worse, if the teeth do not appear soon after.

CURE. The medicines for this purpose are twofold, internal and external, as the latter are more numerous and essential, let us begin with them. When *dentition* is mild, accompanied only with a few symptoms, which demand nevertheless the physician's attention, it will be sufficient to relax the gums with some oleous remedies, as oil of sweet almonds, or oil of eggs; fresh lard, the brains of some animals, particularly of a hare. The gums now and then should be pressed against the advancing teeth, in the points where they begin to manifest themselves: this is done not only without any pain to the infant, but on the contrary, with great pleasure to him, which proceeds from a gentle titillation excited by this means. Moreover, some smooth or polished substance should be given the infant to play with; as a stick of wax or coral, which he won't fail to put into his mouth, particularly, to the affected part, whereby the above-mentioned compression

sion is gratefully performed. This method is sufficient, when the symptoms are moderate; but if they be more intense, recourse must be had to more efficacious remedies. In such cases, the vesicles that appear in the gums should be opened; and if a mortification is threatned, the small ulcers should be fomented with some drops of the spirit of vitriol, intimately blended with honey, or a small quantity of *lanfranc's collyrium* mixed with the spirit of wine. But if the gangrene has begun, let the part be scarified and then bathed, with the remedies mentioned in the article of the *Thrushes*.

If convulsions, acute fever, &c. supervene, and the tooth is not quite broken out by the means hitherto mentioned; let an incision be made of all the obstacles, in the white point over the tooth: but as this operation has no room, except when the tooth is far advanced, and almost visible, it is of little use. Nurses commonly perform it with their nail; but this is a bad custom, and if the operation be necessary, the knife will do better. We now come to the

INTERNAL REMEDIES. If the infant be of a sufficient age to bear blood-

ing, as nine, ten, or twelve months old, let a sufficient quantity of blood be drawn from him, for this practice is requisite in all inflammorty cases, such as the present is; he should be also kept soluble in body, and as his faces are commonly bilious, inject some emolient clyster, as a decoction of linseed with the yolk of an egg, or oil of sweet almonds, suppositories are not so useful; yet if the circumstances demand them, they may be used. Thus the fever will be diminished, and still more by purging the patient, when his age will bear it, as about nine, twelve, or fifteen months; let it be done with compound syrup of succory, or peaches, adding, according to the child's age, the tincture or powder of rhubarb, or an infusion of fenna. To the physie you may also add an emetic, as stibiased soluble tartar, or a dram of emetic wine. The dose of the former cannot be so well determined; because of the different processes, whereby it is made; for of some emetic tartar, eight, nay, ten grains, are the dose, whilst four make a great dose of another; so the physician should always inform himself of the apothecary of the common dose of his tartar

tar emetic: but the manner of preparing the emetic wine, being much the same in all places, it's dose is more fixed. The emetic has place, in particular, in convulsions, lethargy, &c, which attend, dentition, and it may be safely given to children, nay, to the most delicate: for the great quantity of thick and viscid humours lodging in their stomachs, greatly obtunds the activity of this remedy, and renders its action very gentle: after the use of these remedies, absorbent powders, may be called in to our assistance; such as prepared red coral, powder of crabs-eyes, and the powder against the epilepsy; for these are useful, particularly, in the convulsions of children; at the same time the patient and nurse may use cooling broths, of which they are to drink plentifully. Let the nurse's milk be thin, cooling and recent; which qualities, if the milk of the present nurse has not, let her be changed.

C H A P. XIV.

Of the WATCHINGS *of* CHILDREN.

WATCHINGS, as well as the three following diseases, make up the third class of the disorders of children, mentioned in the beginning of this treatise.

Though *Watching*, and want of rest, is very prejudicial to persons of all ages; yet it is still more so to children, than to others, both because of the tenderness and sensibility of their brain, which suffers the more by this indisposition; and because it is very unnatural to children to watch too long: for we may say, that they sleep all the time during their infancy, the common computation in general, being eighteen hours of sleep in every twenty-four hours, especially, soon after their birth; consequently, *Watching* and its symptoms are to be very much apprehended in children: as some children may have a continual and uninterrupted *Watching*, whilst others sleep now-and-then; we may therefore make two species of *Watchings*, the one perfect, the other imperfect.

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In order to explain the nature of *Watchings*, it would be requisite to give an idea of sleep. But as the physiology of the last is too long, and would lead us too far from our present purpose, I shall decline it, observing only in general, that during sleep, the mind does not exercise it's functions; and that the animal spirits intended for these actions rest likewise. In *Watching* on the contrary, all these functions are put into action; the animal spirits are abundantly secreted, and violently agitated. As to the causes of this abundant secretion, as I don't well know them, I shall say nothing of them with respect to infants: for in adults, I may have more room to speak of the matter. As to the agitation of the spirits, it may have many causes; as the painful impressions made on several parts of the body; for instance, scholic pains, or those of the stomach from acrid breast-milk, through the vicious regimen of the nurse, who puts herself into violent heat, drinks too much spirituous liquors, or commits other errors. The bad state of the infant's stomach, his indigestions, and other causes

creating wind, will produce painful distensions, &c. of the stomach. The same thing may be understood of wind pent up, or of acrid humours, worms, &c. in the guts. Excoriations, inflammations, &c. of the skin will produce the same effect; as will also lice, itch of the head, crinones, thrushes in the mouth, stone in the bladder; in a word, all things which create pain, and render the infant restless.

SYMPTOMS. From this description of the disorder, evidently appear it's symptoms. *Watching* produces the emaciation of the patient; for statical experiments made on transpiration, prove that this excretion is much more plentiful the longer we watch; to this effect the pain also contributes, and the infant consequently pines away. These symptoms induce a fever proportional to their intensity: a diarrhæa frequently supervenes through indigestions and acrid crudities. Convulsions also arise, which are rather symptoms of the causes, than of the disorder.

DIAGNOSTICS. The *Watching* of children is manifest of it self, and may be farther known from its symptoms: infants are always disposed to sleep, if some painful impressions

pressions made on their body do not hinder them, and consequently, as often as they do not sleep as they should, they are afflicted with *Watchings*.

PROGNOSTICS. *Watching* is not only very troublesome, but also a dangerous disorder in children; yet it is more or less so, according to it's intensity, for uninterrupted obstinate *Watching*, is more intollerable, than an intermittent transitory one: an inveterate one threatens more than a recent one, for the latter is easily removed. The nature and intensity of the causes also produce some variety; for slight superficial ones, as an excoriation, &c. of the body soon go off, whilst *Watchings* produced by a fever, cholics, &c. are difficultly removed.

CURE. The first business of the physician should be to discover the cause, which produces or foment the evil, and which before the disorder is attacked, should be removed. In order to treat the disorder, the patient should have his body always kept soluble, for the principal symptoms, as the fever, &c. are thereby checked. For this purpose may be employed emollient clysters of the decoctions of plants of that class, into which

which should be put oil of sweet almonds. The glyster pipes should be small, in proportion to the infant's age and bulk. If he be very young or small, instead of the clysters may be employed, a suppository made of the bark with wax and oil. If the *Watchings* are not thus checked, let him be purged; the younger sort are purged with compound syrup of succory, or syrup of peaches. If they be older, tincture of rhubarb, or an infusion of senna may be added. If worms produce the disorder, boluses of mercurius dulcis should be exhibited. If the evil springs from the stomach, or first passages through indigestions and their subsequent crudities, whose qualities you may discover by the colour of the feces; which if green, the crudities are acid, and so of the other colours: absorbents should be prescribed, as prepared red coral, crabs eyes, and diaphoretic antimony, of which you may form boluses or electuaries, without the theriaca, or confection of hyacinth. If the patient has convulsions, let him take the tincture of rhubarb, oil of sweet almonds, the white lohock, and powder of vipers. The nurse's diet should be slender

flender and cooling ; ſhe is to abſtain from wine, and any other thing that may heat her too much, wherefore ſhe is not to lye with the infant, leſt by his reſtleſſneſs, ſhe through compaſſion, tenderneſs, &c. may be alſo obliged to watch, and have her health impaired ; to avoid this inconvenience, there ſhould be two nurſes to act by turns. If the evil be very obſtinate, naricoticks ſhould be preſcribed, though ſome dread them, alledging that they intoxicate and ſtupify theſe young patients ; which I own is true, as well with regard to theſe, as to adults, if the narcoticks be continued too long, or given in too great a doſe ; but in moderate doſes, they are extremely uſeful in this caſe. The one principally calculated for this intent, is the theriaca, eſpecially if it be recent : this contains one grain of opium in every dram ; wherefore twenty grains of it may be exhibited without danger, to an infant of two years old, or ſeven grains only to one of two, or three months, and ſo of the other ages. This remedy is not only uſeful as a narcotic, but alſo as a ſtomachic : if a ſimple narotic is more convenient, ſyrup of white poppies may be exhibited, from half a dram, to a dram

dram and an half, or two drams in purslain water, to be taken at two different times. The powder against the epilepsy, or the anthelminthic powder, may be ordered at the same time. If the child be a little more grown, he may take two, three, or nine drops of the anodyne tincture. Let the infant be treated thus, and if these measures do not entirely cure the disorder, they will at least enable the patient to sustain it the more easily, till it is removed by time.

C H A P. XV.

Of the FRIGHTS of CHILDREN in their Sleep.

THIS disorder is called by Latin writers *Pavor in somno*: such children as are troubled with it, suddenly raise themselves, or start in their beds whilst they sleep, sometimes with a loud cry; sometimes with sudden terror or fear, with it's consequences, as paleness, trembling and cold sweats. Now let us endeavour to investigate the cause of this disorder: if the children then suddenly start in bed, without any symptoms

toms of fear; it may proceed from a sudden painful impression made on some part of their body. If on the contrary, they suddenly cry out, tremble, and are capable of reflection, we may attribute the cause of the evil to their imagination, which is struck with some frightful dream. But infants who through their great youth are incapable of reflection, are rarely subject to this kind of terror, which depends on the imagination. The causes of the former, or the painful impressions are, sudden pain which springs from all the causes mentioned in the preceding chapter; indigestions, worms for want of nourishment, lice, crinones, thrushes, stone in the bladder, and an infinity of other such like causes, which must act suddenly to have this effect. But the most common and real causes are convulsions and cramps, to which infants are very subject; though adults are not exempted from them. The causes of the second class, or a startled imagination, are frightful tales, related to the infant by day, to check and correct him, as the good women do, by repeating frightful stories.

SYMPTOMS.

SYMPTOMS. If the *pavor in somno* be violent and obstinate, it may degenerate into watchings, fever, and what is much worse, into epilepsy and convulsions.

DIAGNOSTICS. The disorder is discovered by the nurse's relation; and provided the physician sufficiently attends to it, he may also learn its species.

PROGNOSTICS. These I have given in the symptoms, by observing that this *pavor* may degenerate into watching, fever, epilepsy, &c. all which are very bad consequences: yet the disorder is more or less dangerous, according to the degree and intensity of its causes and symptoms.

CURE. The treatment of this disorder, particularly of the first species, may be found in the chapter of watching. But when it proceeds from cramps and convulsions, the remedies to be hereafter mentioned in the cure of the epilepsy, are to be employed. As to the second species, or frightened imagination, the only cure of it is, to avoid those terrifying absurd relations, to sooth and amuse the infants, with gentle and more pleasing tales; for it is a very bad and dangerous custom to treat children with such absurdities,

absurdities, because they may throw an infant's brain into such a habit, that the evil may at length degenerate into an epilepsy. If any other remedies are requisite through the obstinacy of the disorder, they are principally narcotics, which not only relax and unbrace the fibres of the brain; but produce grateful and pleasant dreams, instead of the frightful ones above-mentioned.

CHAP. XV.

Of the HYDROCEPHALUS of CHILDREN.

AN *Hydrocephalus* in general signifies a collection of water in the head, of which there are four sorts, according to several observations. Of these, two are contained in the cavity of the cranium, and two on the outside. The first disorder of the latter of these, is immediately under the skin; the other is betwixt the pericranium and bones of the head, the pericranium being separated and lifted up. This species is

so

so rare, that I never observed it. Of the internal dropfies of the head, the first is seated betwixt the cranium and dura mater. The second is, betwixt the dura and pia mater, or in the circumvolutions of the brain, or in its ventricles, which last is the most frequent of all.

CAUSES. Though all dropfies in general, spring from the extravasation of a ferrous or lymphatic humour; yet they have various causes according to their different seats. This is in particular, with regard to the dropfy of the ventricles of the brain.

I. The causes of the cutaneous dropfy of the head, are chiefly owing to the schirrous, or obstructed state of the glands of the neck, and about the basis of the head, which in their natural state receive the lymph of the head, but in this disorder it stagnates in the teguments, &c. and transfuses, or is extravasated. This dropfy may proceed; *secondly*, from the too great compression of the head, by the infant's caps, bands, &c. *thirdly*, the evil may arise from puncture, which may happen here through the number of pins employed; so that if they prick profoundly an abscess may be formed, and afterwards

terwards a large collection of purulent ferous matter. *Lastly*, the most frequent cause is a contusion or stroke on the head, to which infants are subject by falls and playing.

II. The causes of the second external species of dropfy, or of that betwixt the cranium and pericranium, are a pocky exostosis of the external lamina of the cranium, whereby the pericranium is separated from the bones, and the vessels compressed; carries from the pox, king's-evil, &c. whereby the same effects are produced. But the more common causes are strokes and contusions of the head; whereby the pliable bones are suddenly depressed, and restored again by their elasticity, by which action the pericranium is detached from the bones, just like two pieces of parchment, joined by some intermediate substance to each other, which are easily separated by this method. In the separated parts the serum is deposited.

The two internal dropfies of the head, the one betwixt the dura mater and cranium, the other betwixt the dura and the pia mater, spring from the obstruction of the small glands, placed at each side of the

sinus longitudinalis, through some scrophulous or pocky disorder, &c. Both these may also proceed from the sudden and repeated contractions of the dura mater, as is observed in the epilepsy of children.

Finally the *Hydrocephalus* of the ventricles of the brain, is owing to the obstruction of the small glands in the *plexus* or *lacus choroidæus*, for these organs are interspersed with a great number of blood-vessels, which form that net-work. This accident arises more frequently from the obstruction of the *glandula pituitaria*. To understand this the better, you are to observe that the small glands, in the *plexus choroidæus*, or these of the *plexus vermiciformis*, &c. in the anterior ventricles of the brain, secrete a serous humour, intended to lubricate and moisten those ventricles, from which it afterwards passes into the third ventricle and into the cerebellum. If the secretions of this humour be intercepted, it will soon be accumulated in its vessels, transude or be extravasated and give rise to the present evil. The same thing may be said of the *glandula pituitaria*, which the ancients falsely imagined to have a communication

tion with the nose, and to discharge its serum into it, because they observed a small hole to run from the seat of this gland, or the ephippium, into the nose. But thro' this hole passes nothing but a blood vessel, which stops it exactly. This gland on the contrary is destined to absorb the stagnant and superfluous humours of the anterior ventricles of the brain, and to convey them by some lateral excretory ducts into the sinuses of the jugular veins, situated at the basis of the head, and this in order to dilute the viscid blood which returns from the brain, where it was divested of its most spirituous, volatile and exalted particles; for being thus diluted, it will afterwards be the more easily transmitted through the heart, to the other parts of the body. Now the *glandula pituitaria* being obstructed, the humours which it should absorb through its pores for want of secretory vessels, stagnate in the ventricles of the brain, and produce this species of *Hydrocephalus*.

SYMPTOMS. The cutaneous *Hydrocephalus* is attended with no violent symptoms, nor is any pain excited in it by a considerable compression. It is uneven through the different in-

terstices, which it takes up, and very soft, the parts being relaxed by the stagnant serum.

The species betwixt the pericranium and cranium is more circumscribed and even, being so deeply seated, and the skins being equally raised, it is sensible and painful, because the pericranium is very nervous and tender. The futures of the head, preserve their natural situation in both these dropsies; nor are the animal functions, &c. impaired, as in the following species of dropsies, because the brain is not injured. In the internal dropsies of the head, on the contrary all the functions are more or less affected; especially if the evil be seated in the ventricles of the brain. The first thing that presents itself in this case, is a separation of the futures of the head, from the impulsion and distension of the parts, by the included water. The bones are softened by this means, so that the head becomes as big as that of an adult of twenty years of age. Nor is the head round, but on the contrary, the separation of the bones gives it almost a quadrangular form, like an apple cut into four parts. The infant is very weak for want

want of animal spirits, whose secretion is intercepted by the compression, or because they are too ferous. The head also is very heavy and inclines to one side. Through the internal compression of the brain, the blood runs the more abundantly to the external parts of the head; whence they are frequently œdematous in this case. But the most particular characteristicks of these dropfies are, weakness of the sight, and a great dilation of the pupil of the eye.

These symptoms are principally owing to the compression of the *thalami nervorum opticorum*, by the stagnant water, and their relaxation by the same; whence they become inactive for want of spirits, and thro' the relaxation of the nerves. This is chiefly observable in the dropfy of the anterior ventricles of the brain.

The pulse and respiration are flow and weak through the ferous condition, or want of animal spirits. Indigestions frequently supervene for the same reasons; all which induce at length a flow fever, and obscure delirium: the last particularly springs from the unequal oscillations of the fibres of the

brain, through the obstructions and infarction of the vessels, &c.

DIAGNOSTICS. There are four disorders of the same species to be distinguished here. But the existence of the disorder in general should be first discovered, and whether it be internal or external. The sight and touch inform us whether it is external.

I. If it be under the skin, the tumour is uneven, free from pain, soft, and without any separation of the sutures of the head. If the dropsey be seated betwixt the *pericranium* and *cranium*, the tumour is even circumscribed, makes a greater resistance to the touch, and is very painful. The internal *Hydrocephalus* in general causes a separation of the sutures, according to the quantity of the water. If the serum be betwixt the *dura mater* and *cranium*, the waters commonly penetrate through the sutures, and raise longitudinal tumours, which are sensible. If the waters lie betwixt the *dura* and *pia mater*, no inequalities at all are then observed. As to the dropsey of the ventricles, it is particularly characterised by the

the debility of the sight, and dilatation of the pupil of the eye.

PROGNOSTICS. The *Hydrocephalus* is commonly mortal, particularly that species which arises from the obstruction of the *glandula pituitaria*, as also the other species in the *plexus choroidæus*, because these parts are too remote from the action of proper remedies. Nay, it can hardly be expected, that such a great collection of water betwixt the membranes can be absorbed. The same may be understood of the water betwixt the *pericranium* and *cranium*, especially because by its stagnation it assumes a septic quality, whereby the bones of the head are affected, and this is a disorder which cannot be well removed, through the difficult exfoliation of these bones; nay, 'tis almost impossible to produce a cure. The most easily removeable of all is the cutaneous *Hydrocephalus*; because the noble parts are not immediately affected thereby, and it is exposed to the action of proper remedies. But I may say in general, that I never saw any infant recover of this evil, especially when it is inveterate, and the patient of a bad constitution. Yet

young subjects of a good habit and a recent dropfy, may afford some hopes.

CURE. The cure is twofold, the one to prevent it in the infants of some families, which are very subject to this disorder. And the other to remove or diminish the evil when present. In both these intentions the following remedies may be employed; let the patient be purged with some cathartic syrup, to which add according to the infant's age an infusion of fenna, or tincture of rhubarb. If the infant be very young, let the cathartic be exhibited in his pap. Let him afterwards take some diuretic, aperitive decoction, as decoction of china or *sarsaparilla*, *rhubarb-water*, *infusion of rusty iron-nails*, *flowers of mars*, *æthiops mineral*, *powder of millepedes* or *vipers*; four grains of any of the powders may be added to his flummery or other aliments. These are to be continued or intermitted according to the intensity of the disorder. If the patient's age can bear it, you may order him factitious cinnabar, instead of æthiops mineral, for it is much active and void of danger. If the infant be three or four years old, prescribe *powder of jalap*, *cornachin's powder*, or *diagrydium*,
and

and the following simples to make a decoction, being more diuretic than the former, viz. *candy-carrot*, *roots of rest-harrow*, and *stellated carduus*, to which add *arcanum duplicatum*, or *mineral chrystal*; but the former heats and incommodes the breast more than the later. These are the internal remedies.

The external or topical remedies are chiefly employed, when the disorder is external, and more particularly, when it is under the skin; of this kind are 1. Cataplasms of contused snails, included betwixt two linen cloths. Several authors mightily extol these remedies. Some boil them in a decoction of the last named plants. They are to be renewed before they dry, lest they adhere too strongly to the patient's head, especially if they immediately touch the skin. The *emplastrum diabolanicum*, is more commonly employed, and with almost the same success in this case; but with the above precaution in the application. 2. Some authors recommend a vulnerary water, mixed with lime-water, with which the patient's head is to be fomented by a sponge, and afterwards applying a piece of linen or brown paper, dipped.

dipped in the same mixture to the affected part, which may be also embrocated twice a day, with oil of chamomile, covering it at the same time with a brown paper.

FINALLY, if all these methods fail, the operation of the puncture should be performed in the most depending part of the tumour. This method will not certainly fail of success in the cutaneous dropfy of the head, and perhaps it may succeed, when the water lies betwixt the *pericranium* and *cranium*, especially if the evil be recent; but it is entirely useless in the internal dropfies of the head: yet if you intend to preserve the infant's life a little longer, and if the waters are superficial, or betwixt the *dura mater* and *cranium*, you may attempt the puncture, nor will the bones of the head make any great resistance in this case; for they are extremely soft and thin. In the operation you are to avoid the sutures, particularly the longitudinal one, and the perforation may be made near the *futura sagittalis*; but the waters are to be evacuated gradually, not all at once, for fear of a sudden collapse of the brain, which may speedily take away the patient's life.

CHAP. XVI.

Of the EPILEPSY, CONVULSIONS, and
CONVULSIVE MOTIONS of CHILD-
REN.

WITH these disorders, which differ only in degree, I shall put an end to the diseases of the head. Though they are incident as well to adults as children; yet they deserve a place among the diseases of the latter, seeing they are more frequently observed in children, than in adults. This induces some writers to call the epilepsy *morbus puerilis*.

The epilepsy has three essential characteristics. 1. The loss of all sensation and perception in part or intirely, which gives rise to two species of this disorder, *viz.* perfect and imperfect. 2. Convulsive motions of various parts during the paroxysm, especially those of the head, as distortion of the mouth, gnashing of the teeth, protrusion of the tongue, rolling of the eyes, sudden whirling round, standing erect and rigid, or falling

falling down, accordingly as the muscles are contracted, inflammation and twistings of the intestines, interrupted respiration, and sometimes a convulsive erection of the penis, particularly in adults, with an involuntary emission of the semen, urine, and excrements. Some beat their breasts and tear their hair violently, while others stretch out their legs and arms with great force. 3. More or less frothing of the mouth, towards the end of the fit, which sometimes begins a-new; it is almost imperceptible in some, but very manifest in habitual inveterate epilepsies. The tongue being frequently taken betwixt the teeth, also makes the froth bloody.

The infant instead of an epilepsy may have only simple convulsions. These consist in a tonick, rigid, and uninterrupted contraction of some parts of the body, as the extremities, neck, and back, which either immediately become rigid, or are twisted here and there with various contorsions. The convulsive motions differ from these last by their smaller intensity, being milder, and returning at certain intervals, or seizing the patient only now and then.

Both

Both these last are destitute particularly of one of the essential symptoms of an epilepsy, *viz.* a privation of all sensation and understanding, besides the other differences already remarked; yet both, if habitual, may at length degenerate into a confirmed epilepsy. The convulsive motions cause also distortion of the mouth and eyes, but especially some preter-natural motions of some of the extremities, as a sudden elevation of the hand or foot, &c.

Children are most subject to convulsions within the first and second months after they are born, and again about the time of teething; though they are frequently liable to them at other periods. Those convulsive symptoms which frequently attack infants soon after they are born, are distortion of the eyes, tremulous motions of the cheeks and lips, contraction of the tendons, startings and sudden shaking of the limbs; nay, they affect the very trunk; and even the *viscera* are not exempted from the disease.

CAUSES. As I do not intend at present to give a particular account of the diseases of the head, you are not to expect an exact

exact theory, or minute detail of the causes of the present disorder; yet I shall say something of them cursorily, in order to an illustration. In general the primary, or immediate cause of the fore-mentioned disease, consists in the unequal and violent influx of the animal spirits. This violent and unequal influx proceeds from two causes, *viz.* 1. The irregular impulse of the spirits, by the impressions made on some parts of the body, or 2. by their irregular reflux by the oscillations of the arteries of the brain, or the irregular contractions of the *dura mater*; both which causes may be accounted one and the same, only they act alternately; for during the contraction of the arteries, the *dura mater* is dilated; just like the alternate action of the heart and arteries. The contraction of the *dura mater* may be more violent, constant and irregular, either entirely, or in part only, by an irritation in the proper substance of the *dura mater* from its inflammation, waters lying under it, wounds, contusions, and abscesses; excrescences also, and venereal nodes, a corruption of the meninges, or vessels of the brain, may cause the same. Sometimes too it seems to be hereditary

ditary proceeding from a fright of the mother, upon seeing epileptic persons: or this may arise from sudden fear, joy, or other passions of that kind.

The next cause is the irregular reflux of the spirits, by the impressions made on the parts which sympathize with the *dura mater*. The stomach particularly is of that class. Thus we find that in vomiting, the contractions of the *dura mater* are violently provoked, just as the contraction of the muscles of respiration, is excited by the irritation of the *membrana pituitaria*.

As to the causes of the violent irregular oscillations of the arteries of the brain, whether partly or entirely, they may be owing to an inflammation, abscesses, various fevers, or hydrocephalus, and in general all things that produce an infarction of the brain, will also cause an *Epilepsy*, *Convulsions*, and *Convulsive Motions*.

The second general cause above-mentioned, is the impetuous, irregular reflux of the spirits into various parts, from the impressions made on them by external or secondary causes. This is cause sympathetical, seeing it acts on the brain by the intermediation of those parts.

parts. The causes of this class, are crudities or other substances of the stomach, from indigestion, tough, hard, or viscid aliments, &c. the milk curdling or growing acid in the stomach and intestines; whence *Sylvius* concludes the cause to be a volatile, fowre-vapour raised to the brain, which stimulates and irritates the origin of the nerves, by which means the animal spirits are hurried inordinately and involuntarily through the muscles and brain. The same may be also owing to the irritation of the intestines from sharp acrid humours, worms vellicating the stomach and intestines; from a * *calculus* either in the urinary or gall-bladder; from dentition when the teeth difficultly breaking through the periosteum and gums, occasion exquisite pain and restlessness; from cutaneous acute eruptions, as the small-pox, measles, &c. for the sensibility of the skin in these cases may produce convulsions. Hence we rarely find a small-pox in chil-

* In the year 1739, a lady of distinction died at *Versailles*, in a corpulent habit of body, and being opened, a *Calculus* concretion was found in her gall-bladder, about an inch and half in length, and half an inch in diameter; which was shewn me by the celebrated *Mr. Ferain*, professor of medicine at *Paris*.

dren without epilepsy, or convulsions, &c. by the impressions of *Crinones* before-mentioned; nurse sickly, or pregnant, and the like.

As the theory of these causes may seem to indicate that adults should be as subject to the effects of these causes, as children, we are to explain how they produce their effects more frequently in the latter; wherefore,

1. Infants are more commonly attacked with epilepsy, convulsions, &c. from the preceding causes, than adults, because the heads of Infants are more subject to infarctions; for they are proportionally greater, less firm, elastic and compact, nay softer than these of the former, consequently they yeild the more easily to the general causes of the disorder; for this reason we rarely observe feverish children without convulsions.

2. Infants heads are very subject to all external impressions; because their sutures are wide open, and the fountains of their heads so expose their brain, that it is susceptible of the least impression.

3. Their nerves are very tender, sensible, and more subject to vibrations; wherefore they receive the easier all impressions; e-

pecially if they are capable of causing pain, whilst the hard compact, and if I may say, indolent nature of the nerves in adults, are in some measure incapable of these diseases, especially of giving rise to an epilepsy from the most painful impressions; for how often do we see adults troubled with the gout, rheumatism, and a thousand other painful disorders, without epilepsy, or other convulsions. It is this propensity to vibration and sensibility of the nerves, that renders hypochondriacal persons so susceptible of anxiety, and other violent symptoms.

SYMPTOMS. The *Dura mater*, or arteries of the brain, may be in part, or entirely, subject to the irregular contractions and oscillations above-mentioned. If they act conjointly, the epilepsy is perfect, and there is then an entire loss of all sensation and perception from the general compression of all the brain by the said two causes: whilst, at the same time, the animal spirits are expressed into the nerves, and propelled to the convulsed parts.

The patient is commonly subject to a bloody frothing of the mouth; the froth happens from the great quantity of saliva

now

now fecerned through the compreffion of the brain, which makes the blood run more abundantly to the falivary glands, and the difficult refpiration contributes to blend the air with the faliva ; fo that foam neceffarily enfues, which is bloody ; becaufe the tongue is commonly bit by the patient's teeth, during the epileptic paroxyfm ; whence the blood difcharged from the tongue is mixt with the faliva.

If the action of the *Dura mater* and arteries of the brain be particular, or confined to fome portions only of *thofe* parts, but are conftant and uninterrupted, convulfions will enfue with a tonic continued contraction. But, if the action of the *Dura mater* and arteries returns, and intermits now and then, the influx of the fpirits will be irregular ; fo that inftead of a tonic conftant contraction, as in the epilepsy, and convulfion, convulfive motions only will happen in various parts, according to the determination of the fpirits.

The refpiration in all the preceding cafes more or lefs difficult and laborious ; this is owing to the irregular contraction of the mufcles fubfervient to refpiration, whereby the cheft

as it were, bound and compressed ; or it proceeds from the great quantity of blood which necessarily lodges in the lungs, which easily yield from a smaller degree of elasticity ; for the heart, through the resistance it meets in the contracted parts cannot discharge itself as usually ; whereby it puts a stop to the blood in the above organs. This rigidity and contraction of the solids with the defect of a sufficient quantity of blood, which should be propelled into the aorta by the heart, give occasion to an irregular low pulse, and likewise to palpitations.

The signs which precede the fit are, great pain and weight in the head, drowsiness, stupidity, and heaviness about the loins and joints ; forgetfulness and broken sleep, twitchings of the nerves, tingling in the ears, flashing of the eyes, and rolling of the tongue, frequent yawning and sneezing ; the urine being thin and crude.

After the fit, there remains a pain in the head, with a torpor and dulness of the senses, and frequently a swimming of the head, and dimness of sight, with a perfect ignorance of all that passed during the paroxysm, though

though the patient should be burnt to the very bone.

The epileptic paroxysms commonly return; sometimes at stated times of the day, month, or year; but for the most part, they are worst about the changes of the seasons. Sometimes the attacks are uncertain and varying, according to the return of some certain cause, upon which they depend. The paroxysms are sometimes milder, and soon over, and sometimes they are violent and lasting.

DIAGNOSTICS. The tonic, or intermittent contraction of various parts of the body, is easily discovered by the touch and inspection, whether it be epilepsy, convulsion, or convulsive motions. But the causes of these disorders are more obscure: If the cause, as before observed, be general, the effect will be so too, and an epilepsy will happen. Thus the generality of the cause is learned. The convulsions, or convulsive motions denote the cause to be particular, and that the tonic contraction of the *dura mater*, the oscillations or infarctions of the arteries of the brain, &c. are confined to certain particular portions; as to the sympathetic motions excited by the

impressions made on several parts of the body, from indigestions, small-pox, worms, &c. they are soon learned from the patients state; in a word, by a strict examination, you will discover as well the cause, as the characteristic of the disorder.

PROGNOSTICS. All the three explained disorders are commonly fatal to children, especially, if the symptoms be violent, and the cause idiopathic, or in the brain, as inflammation, abscess, hydrocephalus, &c.

If the infant is strong, or pretty far advanced in age, the epilepsy imperfect, and depending on a slight transitory cause, as fever, measles, small-pox, &c. and if it rises by sympathy from the irritation of some parts, by removing the irritating cause, the disease ceases, so that in neither of these cases is the danger so great as when idiopathical.

The epilepsy of children ceases commonly about the age of fourteen, because the parts have acquired a firmer and more dense texture, nor are they susceptible of so violent impressions as before. But if the disease subsists to the age of twenty-four or twenty-five years, the solids having arrived at their full growth and solidity, are incapable of
any

any change; so that they preserve the habitual dispositions they had before acquired; whence the epilepsy after that term, either immediately terminates in death, or is changed into some other disease for the most part incurable, *viz.* the palsy, privation of speech, melancholy, or *phrenitis*. If hereditary, it is reckoned incurable. A violent fit sometimes becomes apoplectic, and proves mortal. When it happens about the first appearance of the menses, they usually cure it.

CURE. It is very difficult to cure these convulsions, and the more, because young children rarely take the proper remedies, especially when they are continued a long time. But if the cure be practicable, the following method is to be taken.

The cure in general during the paroxysm; if the patient is plethoric, or continues long in the fit, bleed, which may be done either by leeches, the lancet, or scarifications. If the disease be idiopathical, take blood from the foot, but from the arm or jugular, if symptomatical; and resist the convulsion by forcibly keeping the hands open, and the limbs extended. Apply volatiles to the nostrils, as sal volatile oleosum, volatile spirit of sal

ammoniac, hartshorn, tincture of castor, assa-fœtida, or the like; sternutatories, as hellebor, euphorbium, leaves of rue, betony, &c. are useful. Let the temples, head, and neck be rubbed with spirituous cephalic mixtures, as hungary-water, compound spirits of lavender, oil of castor, or the clear oil of amber; or, blow into the nostrils and mouth the fumes of Tobacco; and, as soon as possible, give an emetic, purge, or glyster.

If the *epilepsy* proceeds from a fever, measles, or small-pox, these being once cured, that will be also removed; but if it be too violent and inveterate to expect its removal by such means, order the following remedies, viz. the powder, or the volatile salts of vipers, hartshorn, &c. the powder against the *epilepsy*, of gutteta, as described by *Riverius*, that of the roots or flowers of male-peony; confection of alkermes, or of hyacinth; the antiepileptic elixir or volatile salt of tartar; one or more of these medicines at a time, may be given in some proper distilled water, as that of hyssop, rue, peony, black cherry, or balm-water; and if you intend a julap, add the surrup of peony, or that of corals, &c.

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When the *epilepsy* is produc'd by any painful impressions, as teething, &c. prescribe anodyn diluting remedies, nay narcotics, as the syrrup or decoction of poppies, or the theriaca, and we are sometimes obliged to have recourse to the anodyn tincture. If the irritation proceeds from worms, order ethiops mineral, mercurius dulcis, rhubarb, pulvis de tribus, &c. if it is caused by acidity or acrimony in the first organs of digestion the testaceous medicines with a little castor added to them, are excellent.

If the *epilepsy* be complete, and produced by idiopathic causes, let the patient be thus treated in the fit. Order a strong purgative glyster of whey, or a decoction of linseed, to which let be added, a proper quantity of universal purgative electuary, or of the turbid emetic wine. The former to children from six to twenty months is given in glysters to two drams, and much the same dose of the emetic wine.

If the paroxysm still continues, purge the patient, or what is better, give him a cathartic emetic remedy, as the cathartic syrrup, or an infusion of rhubarb, with the soluble stibiased tartar. Half a grain of the emetic

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is a sufficient dose for children before they are two years old ; to those of a more advanced age, we give an intire grain. The common emetic in some places, is fair water, in which is dissolved a large quantity of common salt, which, I own, acts pretty well, and incides the viscid crudities of the stomach ; but it heats too much : therefore where you have an indication to attenuate and vomit at the same time, as in those indigestions which produce an *epilepsy*, &c. prescribe the ipecacuanha, to five or six grains.

When the fit is over, order the antiepileptic remedies, which may be boiled in the infant's usual diet. The following powders may be exhibited in the child's flummery, or other nourishment, *viz.* the powder against the *epilepsy* and that of wild valerian, which is excellent, factitious cinnabar rather than that of the native sort, crocus metallorum, bezoar mineral, the powder of vipers, that of worms, that of a wolf's liver, amber, peony, miseltoe of the oak, and human scul. These in general are given from ten to fifteen grains, separately ; but if combined, their dose should be proportionally lessened. One or two grains of the cinnabar is equivalent

to the above mentioned dose of the other powders. These remedies may be continued occasionally two or three months. The patient should use at the same time, a ptisan of the following plants; as the roots of male-peony two drams, of valerian half a dram, miseltoe of the oak one dram, sarsaparilla and china root of each two drams. Any one of these plants in the above mentioned dose is to be boiled in a quart of water, and continued as above. After the use of these Medicines, the patient should be purged again. If a new Infarction of the brain discovers itself, and the blood is viscid, after a due preparation by the general remedies, you may order more powerful aperitives, such as the flowers of mars to six grains. *Croc. mart. aperit.* to seven or eight grains. *mercur. dulc.* to three or four grains.

To these remedies may be added occasionally, troches of myrrh, the peruvian bark, the oil of guaiacum rectified, the chymical oil of rosemary, observing to order the dose proportionably to the child's age, strength, and degree of the disease.

Cephalic wines, and the steam of cephalic decoctions received by the mouth and nose,

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are serviceable, as are also warm baths and sweating. A course of chalybeate waters is adviseable. A gentle salivation often succeeds; and ought therefore to be recommended, provided the intervals of the fits are neither short nor uncertain; for should a paroxysm happen in the middle of a salivation, 'twould greatly hazard the patient's life. A discharge at the mouth should be promoted, either by a proper gargarism, or by chewing a little pellitory of spain, cloves, or the like. Flower of mustard seed, horse-radish scraped, and some warm vinegar applied to the soles of the feet, is good, but care must be taken that they inflame not the Part too much. If the child sucks, antispasmodic medicines should be likewise given to its nurse, either in broth, whey, ptisan, electuaries, &c. If these fail of success, the next most effectual method is an issue in the neck, setons also, or blisters may be applied either to the scalp, neck, or behind the ears.

The idiopathic differences between an apoplexy, paraplexy, carus, cataphora, elilepsy, and syncope, and the characteristics of the pulse in each disease may in some measure be deduced from what has been already said.

CHAP. XVII.

Of the CHIN-COUGH.

WE come in the next place to the disorders of the breast, of which none is peculiar to children, but this *Cough*; the Greeks and Arabians make no mention of it. The Latin writers call it *Tussis*, adding one or other of these epithets, *ferina*, *perennis*, *convulsiva*, *suffocativa*, *puerilis*. All catarrhs commonly affect only the head or neck, and are all, when epidemic, called *Chin-cough*; though not always of that nature. The *Chin-cough* has the following essential characteristics; in particular, a continual violent cough, the infant being almost incapable to inspire, but seems constantly to expire. But when necessity obliges him to inspire, it is *cum sibilo*, *cum stertore*, *clangore*. Though violent as this cough is, yet the patient expectorates nothing, but at length may spit up a little lymph of no bad quality, or may vomit his milk, or other ailments, or a viscid matter disengag'd from

from the stomach. This cough commonly begins without fever; but in fifteen or twenty days, it supervenes; nay a phthisis, and sometimes death itself terminates the disorder.

I know but two authors, who have said any thing worth remark of this disorder, as *Willis* in his *pharmacœntica*; but he placed its seat in the breast.

The second is *Harvey*, who approaches nearer the truth, by placing its seat in the stomach. As for my part, I may positively affirm, that it principally consists in the inflammation of the superior part of the larynx, and pharynx, and more particularly of the latter, which is sometimes ulcerated with a constriction of the glottis, as dissections prove.

CAUSES. This inflammation of the pharynx, &c. 1. May depend on external causes, as cold, and other vicissitudes of the weather.

2. On internal causes, as indigestions, which by the acrid exhalations and eructations they emit, irritate the above-mentioned parts; so that this cause is more infallible than any other. As to cold, it does not properly produce the chin-cough; for it may be esteemed only an auxiliary cause; at most

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it would produce but an ordinary rheum: but here we meet with something more, as may be observed in the essential characteristics above specified. Besides, this cough happens in fair as well as in foul weather; in summer as well as in winter; consequently it does not spring from cold. Nevertheless, there are some modern physicians, who take it for a disorder of the breast: but if the lungs be affected, this misfortune is rather the effect, than cause of the disorder; for we find, that the lungs of infants who suddenly die of this cough before it makes any great progress, are not in the least affected; but when it continues a long time, the coughing and difficult respiration, must have some effect on these organs.

From all this we may conclude, that the genuine cause of the disorder is in the stomach, and this consists principally in the indigestions of that organ which produce acid eructations, and sometimes vomiting, whereby the pharynx and the larynx are irritated, as is also the glottis, which is thrown into a constriction. From this irritation springs the inflammation and ulcers, whether distinct or confluent of these parts, the inflammation
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having degenerated into suppuration. The causes of these indigestions are the superfluous quantity, or peccant quality, of the ailments, to which the cold may also contribute. Children are the more subject to these indigestions by their irregular way of living, eating without any rule or measure, and very frequently of hardly digestible aliments; as crude and raw fruit, &c. wherefore they are to abstain from such, as also from a superfluous quantity of milk, flummery, &c. and avoid cold as much as possible.

But it may be said, that the breast seems to be really affected in this case; otherwise, whence could proceed the obstinate cough? though the breast is not really affected, yet by the laws of sympathy through the irritation of the pharynx and larynx, the cough is induced, as we see all the organs of respiration put into action by the simple irritation of the pituitary membrane. But as it is caused by no morbid matter in the lungs, the patient expectorates little or nothing at all. The cough is obstinate, because the indigestions, &c. which produce it, are likewise so, nor are they easily removed. The patient is in danger of suffocations at every inspiration;

inspiration; because, since he expires almost every instant, he has occasion for a great quantity of air, which endeavours to enter by the contracted glottis with precipitation and suddenly; for it is probable, that the same cause, which irritates the œsophagus, produces also a convulsive contraction in the glottis; because we find, that by contracting the latter voluntarily when in good health, we may mimic those children who have the chin-cough. Vomiting commonly attends this species of cough, and why should it not, since it attends ordinary coughs? This symptom proceeds from the compression of the stomach, by the abdominal muscles; moreover it is affected by the disorder of the œsophagus, whereby its contraction is augmented. The humours thus discharged, are mucilaginous and viscid, or acrid, as the smell and taste perceived by the patient demonstrate. This is the effect of indigestions and intense of heat of the stomach, whereby the gastric juice, and other liquors, are more abundantly secreted and inspissated, as we observe in the humours of the eye, in consequence of an ophthalmy, or in the stone of the bladder, whereby this organ is irritated, and inflam'd; whence the urine is sometimes mixed with

a viscid whitish matter, like the inspissated white of an egg. These symptoms at length degenerate into a fever. The lungs by degrees begin to suffer, and become weaker by the violence of the cough, till they are at last ulcerated, and the above fever degenerates into one of the slow and phthysical kind, the pus being absorbed. Hence these patients commonly dye by one or another of the following causes, *viz.* by a phthisis, or gangrene of the pharynx or larynx.

DIAGNOSTICS. To hear the patient cough, is sufficient to discover the disorder. The cause is also learned by what we have said above. If the lungs be affected, we learn it from the nature of the spittles, whether bloody or purulent, &c. The symptoms indicate the degree of the disorder.

PROGNOSTICS. If this disorder be regularly treated in the beginning, it is slight, and soon removed; but if it be neglected, and the patient still continues his irregularities, it may become mortal, through the considerable alterations of the lungs, the slow fever, gangrene, &c. whilst in the beginning, by a strict regimen, which is the principal remedy, it may be removed, or at least

least by stomachics, in conjunction with pectorals.

CURE. When the chin-cough is violent, we should have recourse to bleeding; for though the lungs are not inflamed, the œsophagus, &c. are. A child of eight or nine months old, may be blooded once; if he exceeds two years, twice. In the next place, he should take an emetic, or the Ipecacuana, if the viscid matter in his stomach be abundant; nay, an infant of six months may take these medicines without danger, on account of the redundancy of viscid humours children commonly have in their stomachs. Ipecacuana is a specific in these cases, as well as in dysenteries, where we see by ocular demonstration, the effects of its attenuating quality in the exclusion of the morbid humour, after which the disorder ceases. The third part of the common dose is given in the chin-cough. The soluble stibiated tartar is exhibited to one-third of a grain to children who are not yet a year old. To those who exceed this age, it may be given to one grain; but divided and dissolved in three different vessels, all of which, or only two are to be used, as the occasion requires.

With respect to Ipecacuana, which we already observed, besides vomiting, attenuates powerfully, as the matter which was before viscid and tenaceous, after its use becoming thin and serous, evidently proves; it may be given to two, three, or four grains, to children under a year old; but to seven or eight to those above that age; though four may sometimes serve, proportioning the dose to the state and strength of the patient. After vomiting, the patient should be purged with a purgative syrup to which add, if necessary, an infusion of rhubarb, or senna, which may also be used alone. Afterwards order a strict regimen, and exhibit remedies which promote a good digestion, as stomachics and absorbents, such as red coral prepared, prepared crab's eyes, chalk, or above all, the pulvis temperans of *Stball*. Of any of these, five or six grains in a dose may be ordered in the patient's broth, pap, &c. They should be exhibited twice a day, morning and evening, purging now and then. If the absorbent powders are ineffectual, you may have recourse to stomachics, and especially the theriaca, to fifteen grains, which calms and strengthens at the same time.

time. Elixir proprietatis four drops, confection of hyacinth one scruple, salt of wormwood, powder against the epilepsy, or powder of vipers, and the water or tincture of rhubarb may be given; nor should purgatives now and then prescribed, be forgotten. If the violence of the cough still subsists, it should be checked with narcotics. The theriaca for the above-mentioned reasons, is excellent, given from five to fifteen grains; the syrup of diacodium from one to two drams, and the patient's regimen should be still very exact, by which means the disorder is at length removed.

As to pectorals, if the lungs be not as yet affected, they should not be used; for as they are oleaginous and relaxing remedies, they considerably prejudice the stomach, whose disorder we should always propose to correct in this case; but pectorals weaken it more, and augment its indigestions. Yet, if the physician is importuned to order them, he may in complaisance to the good women, prescribe the most temperate of this class, as white lohoc, or oil of sweet almonds made into a lohoc, with syrrop of marsh-mallows; decoction of turneps in

broth, prepared with calf's lungs, or narbon honey, is also excellent. In the height of the paroxysm, you may order your antiasthmatic remedies, or those used in convulsions, or the following, syrrop of hedge-mustard, or that of hyssop. A decoction of figs, or equal parts of flowers of sulphur and sugar-candy reduced to a powder; or syrrop of apples, or the white lohoc, may be put into every cup of the patient's ptisan, &c. according as the occasion requires. But the principal remedy on which we should depend, is a strict regimen, retrenching what was superfluous and indigestible, giving less panada, or pap, &c. than before. If he does not digest the breast-milk well, let the nurse be changed, and let him avoid all acid and acrid meats, &c.

Before I put an end to this subject, I cannot pass over in silence two famous specifics very much in vogue, particularly in our own country.

The first is made mention of, and recommended by Dr. *Willis*, as the most efficacious remedy in the chinc-ough, as he experienced very frequently, in the course of his practice. It is the plant called cup-moss; and may be given in substance or powder

der, with a little sugar-candy, to eighteen grains. Its absorbent just like crabs-eyes, or any other testacious substance. It may be also exhibited in a decoction, broth, ptisan, or apozem; or thirdly, it may be made into a syrup, by making a strong decoction of it, reducing the same to the consistence of a syrup, with a sufficient quantity of sugar. It may be given in this form without danger, to two drams, or half an ounce.

The second remedy recommended by Mr. Boyle, is much preferable, which is also extolled by Mr. Rawly. Yet it is no infallible medicine in this case. It is the Juice of penny-royal expressed, adding to each spoonful some sugar-candy.

CHAP. XVIII.

Of the DIARRHÆAS of Infants.

AMONG the disorders of the lower-belly incident to children, *Diarhæas*, *Ruptures* and *Worms*, are the most frequent. I shall begin this article with *Diarhæas*, in which two essential things are to be re-

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marked.

marked. 1. Too frequent evacuations of the contents of the intestines. And, 2. Their too great fluidity.

DIFFERENCES. The differences are principally deduced from two heads. 1. The nature of the evacuated matter. 2. The quality and nature of the symptoms which attend the disorder.

As to the nature of the evacuations, a *Diarrhæa* is of four species. 1. *Stercoral*. 2. *Cæliac*. 3. *Lienteric*. And, 4. *Dysenteric*.

I. The *Stercoral Diarrhæa* is that wherein the fœces have almost the same consistence, as in a natural state; but with some change in their other qualities. This change of the fœces is fourfold; 1. argillacious, or of a grey or whitish colour. 2. greenish, almost like leeks. 3. yellowish, or bilious. and, 4. viscid, without any mixture of blood.

II. The *cæliac Diarrhæa* is that wherein the patient discharges by stool, a milky, whitish humour, which is nothing else but a chyle which could not enter the lacteals.

III. The *Lienteric Diarrhæa* is that wherein the aliments are evacuated just as taken, almost without any alteration; it is perfect when the aliments undergo no alteration, and imperfect when a little changed.

IV.

IV. The *Dysenteric Diarrhæa* is that wherein a bloody viscid matter is discharged; but we are to guard against taking the hemorrhoidal blood, which sometimes flows from the hemorrhoidal veins in the rectum, for a dysenteric flux.

As to the quality of the symptoms of these fluxes in general, whence some differences may be deduced, they are, 1. with or without colic pains, &c. 2. they are colliquative, or not. They are attended with colliquation, when inveterate, and when a slow fever supervenes, or is the cause of the flux, as in the phthisis, but not colliquative, when there is no fever, as in the beginning, when the fever does not produce them.

CAUSES. The general causes of these fluxes are, as we remarked. 1. the too frequent evacuations of the different substances contained in the intestines. 2. their too great fluidity.

The causes of the frequent evacuations are not, as the vulgar imagine, the too great relaxations of the intestines, &c. whereby they are incapable to retain their contents; and consequently let them slip out as fast as they present

present themselves. This I own would have a plausible foundation, if the intestinal canal was strait and perpendicular, like a cylindriac tube. But anatomy teaches us the contrary; for we find that the intestines are variously folded, and complicated; so that their contents should lodge the longer in them in consequence of their relaxation. Besides the fœces having a tendency to descend by their proper weight, could never in this case do so, for want of sufficient force in the intestines; consequently this relaxation is chimerical; wherefore we must seek for a more adequate cause of the frequent stools, which I imagine consists in the too strong and accelerated contractions of the intestines. This depends, 1. on the acrimony of their contents, whereby they are irritated, and thrown into this contraction, in conjunction with the sympathetic contraction of the other organs intended to exclude the fœces, &c. 2. The too great sensibility of these organs which has the same effect, though the contents of the intestines be as in the natural state. 3. The concurrence of both these causes. Before we enter into a detail of these causes, we shall examine the nature of the

the fœces, chyle, &c. and enquire how they become so acrimonious as to produce these fluxes. The fœces then are nothing else, but the remainder of the digested aliments, which by their coarseness, could not enter the lacteals, or to speak more distinctly, they are the dregs of the digested aliments, mixed with the excrementious parts of the bile, gastric, pancreatic, and intestinal juices. The chyle, on the contrary, is the most fluid elaborated part, and if I may say, the quintessence of all these, which enters the lacteals, quitting the above-mentioned remainder. Now the fœces may become acrid. 1. By the acrimony of the bile, pancreatic, gastric, and intestinal juices, and the degree of this acrimony, will be in proportion to that of the blood, whence these juices are supplied. Thus in slow fevers, &c. the fœces are acrimonious, because the blood is so. 2. The acrimony of the fœces, &c. may be produced by indigestions. 3. The too great sensibility of the digestive organs may depend on their intense heat or beginning inflammation. This is the effect, 1. Of the acrimony of the indigested humours, &c. which by the constriction it produces

produces in the intestines, stops or retards the course of the blood in these organs, so that the effect of one simple cause of this flux, may in its turn, become a real cause of it. 2. The various vicissitudes of the air, as sudden and frequent changes from heat to cold, or the contrary; whence our blood is as frequently rarified and condensed, just as it happens in the liquor of a thermometer, which mounts and falls according to the degrees of heat and cold. A third cause may be the combination of both these.

As the causes hitherto mentioned, are common to adults and children, it may be asked, why should the latter be more subject to these fluxes than the former? This disposition then particularly in children who suck, arises, 1. From their constitution, and 2. from their nurse. As to their constitution, if it be too delicate, they will be the more influenced by the least changes of heat or cold, &c. and though the milk be good, yet they are subject to indigestions, &c. and consequently to those fluxes. As to the nurse, though she be healthy, and sound; yet, if she commits the least excess in drinking, eating, indulging her passions, watching, &c.
the

the infant will be immediately injured, because her milk is changed by these irregularities. Besides the pains, watchings, fever, &c. of the infant, will produce the same effect. These causes are transitory. The most common and permanent are, 1. Too new or recent breast milk, which by its acescent quality, and too great fluidity, disposes the infant to this flux. 2. Too old milk, by its spissitude and difficulty of digestion, will produce the flux. 3. If the nurse be pregnant, the same effect will follow. The other causes of indigestions of weaned infants, particularly are, 1. The too great quantity of aliments which they devour without any order or rule. 2. The abuse of sweet, sugared, &c. meats. 3. Wine. 4. Fruits, &c.

In the next place we come to the second of the general causes, *viz.* The preternatural fluidity of the *fæces*. The causes of this are, 1. The excessive secretion of the pancreatic, intestinal and other juices, in consequence of some stimulus in their organs. 2. The accelerated peristaltic motion of the intestines, whereby the chyle is so speedily propelled, that it has not time enough to enter, or be absorbed by the lacteal vessels. Besides the
 constriction

constriction of the intestinal fibres in this case, has so obstructed the orifices of the lacteal veins, that they can hardly absorb the chyle. The particular causes of each of the preceding fluxes deserve our attention in the next place, wherefore,

I. The stercoral flux depends on bad digestions in the stomach, and the want of a due mixture of the bile with the chyle in the duodenum, as we observe in all obstructions of the liver. In this case, the fœces will be greyish, argillaceous, or whitish. Besides these causes, the fœces are rendered whitish in children by the breast milk; and by a redundance of bile they will be yellowish. But if the irritation be intense enough to separate the lining of the guts, by their strong and repeated contractions, without rupturing any small vessel, the flux in this case will be viscid or mucous. The same thing may be said of some purgatives, which gripe and cause pain, for they disengage also the intestinal mucus.

II. In the next place, an indigestion, whence results a viscid chyle, which cannot consequently enter the lacteals; or the excessive acceleration of the peristaltic motion, whereby

whereby the chyle is hurried off too suddenly; or finally the obstruction of the mesenteric glands, or lacteal veins. All these will retain the chyle in the intestins, and produce a cæliac flux.

III. If the stomach and intestins are superficially inflamed, they precipitate the aliments before they can be digested, whence a lientery will supervene.

IV. If the intestins are inflamed, ulcerated, or excoriated, and some blood vessels ruptured, a dysentery will happen; and we can judge of the consistence, colour, &c. of the blood, so as to determine whence it comes.

If you want to know more of the theory and cure of these fluxes, see them explained in the disorders of the lower belly.

DIAGNOSTICS. The flux in general is soon discovered by the frequent stools, and their too great fluidity. The inspection of the fœces will also inform you of the species of the flux: whether they be colliquative or not, the presence or absence of a slow fever will demonstrate.

PROGNOSTICS. The Prognostics in general are very bad, especially with regard to children; and of the many affected with these

these fluxes, few escape, particularly in southern climates, where the humours are more exalted and acrid. But the prognostic is various according to the particular circumstances. For, 1. a recent is less dangerous than an inveterate flux. 2. According to the species, for a stercoral is not so dangerous as any other flux; and those of the colliquative kind, are of all others the most fatal. 3. The symptoms cause some variety; for the fluxes which are attended with many and violent symptoms, as loss of taste, gripings, &c. are more dangerous than such as have few and slight symptoms. 4. According to the patient's age, for these fluxes are more fatal in very young and tender subjects, than in such as are farther advanced, because the former are less able to bear the weakness and other misfortunes which these fluxes bring on. 5. According to the nature of the cause. for a transitory cause is less to be apprehended than a permanent one; thus worms, dentition, crinones, &c. are less dangerous, than an inflammation, ulceration, &c. of the stomach or guts.

CURE. Few medicines are employed in these disorders, both because of the delicate constitutions

constitutions of children, and the repugnance they have to drugs; so that a proper regimen is the only thing a physician can depend on.

I. Therefore a suitable diet should be prescribed. If the infant sucks, part of his milk should be retrenched, and its quality carefully examined: if it be not good, the nurse should be treated with proper remedies. If the child be weaned, he should abstain from his pap, flesh meat, &c. and must be confined to a little soupe, which should be very light, for meat soupes, such especially as are fat, are very subject to putrefaction, wherefore some pot-herbs should be boiled therein; you may also add the yolk of an egg to the soupe, or simple broth.

II. After these remedies, you proceed to purgatives, or emetics; the last of which are generally the most efficacious: But they are to be ordered principally when the patient is inclined to vomit, and when his stomach is over-charged. Purgatives are useful in the dysentery, especially the Ipecacuana; because it evacuates, and at the same time attenuates the viscid and mucous humours. It may be ordered from two to ten grains, according to the infant's age, beginning always rather

by an half, than a full dose; and if the first does not operate, you may the more safely proceed to a stronger; you may order by the same gradation and caution, the stibiated tartar. Among the purgatives, rhubarb should be principally employed if the patient's age can bear it. As these remedies are the most efficacious in these fluxes, they should be now and then repeated.

III. After purgatives, we are to order mild stomachics, as the confections of alker-mes, that of hyacinth, and the theriaca, to 12, 15, or 20 grains. The two first should be exhibited in the morning, and the theriaca at night, because of the laudanum it contains, which disposes the patient to rest; or the following stomachics may be employed as myrrh, or mastichs, to 3 or 4 grains, or oriental saffron, which is anodyne and stomachic at the same time.

IV. After the stomachics, absorbents are prescribed, as are also astringents, as crabbs eyes, or harts-horn, to eight grains twice a day. These absorbents may be combined with astringents in the form of boluses, electuaries, &c. with syrup of myrrh, or that of quinces.

V. If

V. If all these remedies be still employed in vain, and the patient is very much gripped, narcotics are to be prescribed, milder or stronger, according to the child's age.

As to bleeding, it is commonly useless in these fluxes. But if the pains be very violent, it may be instituted, drawing more or less blood, according to the patients age, strength, &c.

Finally, anodyne clysters should be prescribed; they are made of the decoction of tripes, or of veal, and the oil of sweet almonds, or a decoction of mullein, in which is boiled a poppy-head, or they may be made of whey and brown sugar.

CHAP. XIX.

Of RUPTURES, and first of the UMBILICAL RUPTURE.

THESE are divided into ruptures by dislocation, and ruptures by congestion. The former are ruptures properly speaking, and are produced either by the epiploon, or omentum, or the intestines, or by both. The

first species or ruptures by dislocation, is two-fold, *viz.* umbilical and inguinal; which latter is also two-fold, *viz.* annular and crural; the former in the annuli or ringlets of the abdominal muscles, the latter under the arch which they make by their aponeurosis in the groin. The rupture by congestion is called *Hydrocele*; and most commonly in the tunica vaginalis of the testicles, this water is collected. To these ruptures I shall add an account of the am procidentia, or falling down of the anus.

These disorders have such an analogy with each other, that my explication of them shall be very brief.

I. 'Tis sufficiently certain, that there is a passage in the navel for the umbilical vessels to entertain the circulation betwixt the infant and placenta. This aperture is commonly closed soon after the infant's birth; but it sometimes remains dilated, and so easily yields, that several species of ruptures may follow, all which are called in general *Omphalocele*; but if the epiploon alone forms the tumour, it is called *Epiplo-omphalocele*; if the intestins alone, *Enter-omphalocele*; if the

intestins and *Epiploon* form the tumor, it is called *Entero-epiplocele*.

CAUSES. We shall now enquire into the causes which produce these ruptures, or rather investigate the causes of the dilatation of the navel. Some children then have this rupture naturally through the largeness of the umbilical vessels, in consequence of which it can never be well closed. Some have this disposition accidentally, by the weak and bad ligature of the umbilical chord. Some also have their *musculi recti* so far separated, that the *linea alba* is left without resistance, particularly about the navel, so that the epiploon and intestins easily force it from its natural situation. But these predisponent causes are not sufficient to produce an *Omphalocèle*, without the efficient causes, among which may be reckoned particularly the infant's cries, coughing, &c. which press the contents of the abdomen, and force them to incline where they find the least resistance. Nay, if the efficient causes be very intense, they may produce the disorder in adults, without the concurrence of any predisponent cause.

SYMPTOMS. The symptoms of this species of rupture are palpable; for it begins with a small tumour gradually augmenting to the bulk of the fist, the same cause still subsisting. Besides the tumour, the patient has also pain in the affected part, and more frequently over all the abdomen, from the distraction of the parts with which the epiploon or intestins are connected. If the tumour is caused by the epiploon, the pain is in the upper part of the abdomen; if by the intestins, the pain is lower, from the distraction of the mesentery, which is situated lower than the epiploon. If the intestins are pinched in the passage, the fœces are intercepted, and an iliac passion supervenes. If the epiploon and intestins are pinched together, an inflammation and gangrene may follow.

DIAGNOSTICS. The diagnostics of the rupture in general are manifest; but the rupture produced by the epiploon, should be distinguished from that produced by the intestins, in order to make a just prognostic. If the tumour be soft and uneven, the epiploon is the cause; but if it be harder and smoother, it is produced by the intestins. It is nevertheless of more Importance to know

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if there be a strangulation. This is discovered by the difficulty the surgeon finds of reducing the contents of the rupture; for if it be easily reduced, as it is commonly in children, the parts are not pinched.

PROGNOSTICS. If the displaced parts are timely reduced and retained, the rupture is soon cured in children; for of ten, nine commonly escape, because the parts grow strong by age, and the dilation is filled up.

CURE. By raising the patient's thighs higher than his breast, the tumour being held by the left hand, and gently reduced by the right, the operation is soon performed in children. If the operator finds the reduction more difficult, let him employ emollient fomentations, and then return to the operation as before. The parts being reduced, the patient should keep his bed, if possible, for thirty or forty days; for this is more efficacious than the bandage; though the latter should be also employed; and let the button of the bandage be always larger than the passage; otherwise it would be apt to enter it, and keep it always dilated. Besides these precautions, astringent remedies should be employed, as the rupture plaister

which is useful in all ruptures; or make a cataplasm of the roots of comfrey, reduced to a soft pulp under hot ashes. There is no need of changing the former very often; but the latter should be changed every twelve hours. As to the decoctions proper for this indication, I shall speak of them under the *inguinal hernia*. The infant must be hindered by all means from crying, coughing, &c.

CHAP. XX.

Of the HERNIA INGUINALIS *and* CRURALIS.

IN the hypogastrium there are two parts, which are in particular weaker than any of the rest, *viz.* the annuli or ringlets, which are chiefly formed by the obliquus magnus of the abdomen, and the other formed by the aponeurosis of this muscle, which is supported at one side by the ossa pubis, and at the other by the ossa ilia; so that according to their height the arch is proportionally large. Under this, pass the crural vessels, nerves, &c. Through the annuli, pass the
super-

spermatic vessels, the vasa deferentia, and the lymphatic vessels of the testicles in men; but in women, the ligamenta rotunda of the uterus, &c. pass through the same annuli.

These passages, as well the annuli as the arch, are naturally filled up with their respective vessels; but in some, these passages may be too wide, or the aponeurosis and other parts too weak; so that they easily yield to any considerable impulse, as by the compression of the lower belly in crying, laughing, &c. but more frequently in children than in adults, the reason of which is sufficiently evident.

The rupture through the annuli is called *bubonocoele*, which is imperfect, when the impelled parts are still about the passage; but perfect when they descend into the scrotum. Both these species receive various names from the nature of their contents. If it be the epiploon, the rupture is called *epiplocele*; if the intestins, it is named *enterocoele*; or *ent-ro-epiplocele* if both.

As to the hernia cruralis, it is subject to happen in the above-mentioned arch, when this is too large, for the reasons already given, or when the aponeurosis is too weak; for here
are

are no fleshy fibres. In these cases, any compression almost of the abdomen, will give rise to a rupture in this passage.

SYMPTOMS. The symptoms of both these ruptures are much the same as in the preceeding case. A small tumour gradually augmenting, appears in the groin, annuli or scrotum; a dull pain in the abdomen from the distraction of its contents, and in the passage from its preternatural dilatation. All these may happen with or without any strangulation of the intestins. If the volume of the intestins or epiploon be great, or the passage very narrow, they will be pinched, or the feces will be intercepted, and a gangrene may ensue.

DIAGNOSTICS. The rupture either at the annuli, or crural arch, is immediately discovered by the sight or touch; the other diagnostics are the same as in the preceding species of rupture.

PROGNOSTICS. This disorder is rarely dangerous, if the intestins be not pinched; but in this case, the illiac passion, gangrene, and death may supervene.

CURE. In adults, the operation is requisite; but seldom or never in children, through

through the weak and yeilding texture of their solids. Therefore the rupture is to be reduced in both the present cases, in the manner mentioned in the *hiernia umbilicalis*. But if this cannot be done without difficulty, let the tumour be fomented as in the above case; nay, if the resistance be still great, the physician may order venescetion, and an anodyne cataplasim to prevent inflammation. The parts being reduced, they are to be retained by a proper bandage. That commonly intended for children is the *Spica*. But as it should be frequently renewed, being very subject to become dirty, so some prefer the ordinary bandage of adults, which is furnished with a kind of ball or button, to compress and strengthen the passage: but this is fit only for children who walk, and are pretty old. Besides these precautions, the child should keep his bed for forty days, nor should he cry, leap, &c. To the rupture may be also applied the plaister against the rupture, or the above-mentioned cataplasim of comfrey. The patient should also take some astringent strengthening remedies internally, as a glass of the decoction of rupture wort, or solomon's seal, or two ounces of
their

their juices, to which add a little sugar or syrup. Six ounces of their decoction may be exhibited.

The powders of these astringents may be also exhibited, or the powder of tormentill root, all which are gentle astringents. These are given in the patient's soup, broth, pap, &c. But a remedy which is much more efficacious than all these, and which has done miracles in this case, is, dulcified spirit of salt, given in the patient's ptisan, till it is gratefully acid, or to five drops only to younger children. Another celebrated specific in this disorder, and which is met with in the works of most modern French physicians, is the remedy of the prior of *Cabrière*, with which he is said to have cured vast numbers of ruptures; but these great effects are, I believe chymical, and the fame of his remedy is rather owing to the ignorance of those who used it, than to its real efficacy; for in the provinces of France where this is mostly in esteem, every patient strives to conceal this imperfection, under the colour of an effectual cure; for fear of missing a good wife or husband.

CHAP. XXI.

Of the RUPTURE by congestion, or of the
HYDROCELE.

THIS is a watery tumour most commonly seated in the scrotum, or betwixt this and the testicles, but is no genuine rupture. The only tumour of this kind, which merits the name of an *hernia*, is a collection of water in the tunica vaginalis of the testicles. In order to explain this tumour, it will be necessary to give a short description of these parts. The tunica vaginalis then is naturally very smooth on its internal surface, nor does it adhere to the testicles but on its posterior part, or on the epididymides or parastatae; but it gently touches on the surface of the testicles in all its other parts; so that it may be compared to the pleura with regard to the lungs. Betwixt this and the testicles, or their proper coat, is secreted a small quantity of serum, which is intended to lubricate them, and facilitate their motion; but this serum in the
natural

natural state is absorbed in the same proportion in which it is secreted. In this case, on the contrary, it is more abundantly secreted than absorbed; as also in the *pneumatocoele*. Hence this serum is collected by degrees, till it forms a sensible tumour; so that the causes of the disorder are all such circumstances as hinder the absorption of this serum, and these are various; as, 1. A bandage which compresses the spermatic vessels, so that the return of the lymph of the testicles is impeded. 2. Obstructions in the glands of the groin, or in those which are placed about the spermatic vessels; whereby these are compressed, or the passage of the lymph through these glands obstructed. 3. The varices of the veins in the *corpus pampiniforme*, which is composed of many complications of the spermatic veins. These varices happen through the weakness of these vessels, and hanging down of the testicles by the relaxation, or inactivity of the *musculus cremaster*, or by the constant cries of the infant, whereby the abdomen is continually compressed.

SYMPTOMS. No symptom is more remarkable or worth our notice in this disorder, than the tumour of the scrotum, which

which continually augments, particularly in the anterior and inferior part of the tunica vaginalis, for it's adhesion to the posterior part of the testicle, hinders the growth of the tumour in that place.

DIAGNOSTICS. An hydrocele is easily discovered by the sight and touch. It is distinguished from a pneumatocele by its freedom from pain and weight; for the latter tumour is light and elastic.

PROGNOSTICS. This disorder is not only dangerous, but commonly incurable, in adults, in whom nothing but the operation, or an incision of the scrotum and tunica vaginalis, in all its length, is of any service; that by this means, the suppuration of those parts may be excited, and the adhesion of the tunica vaginalis to the proper coat of the testicle procured, whereby other collections of serum betwixt both may be prevented. But in children, this is not necessary: for more gentle methods will remove their hydrocele. For this end, let them be purged with some brisk cathartics, as cornachins powder, or that of jalap, if the patient's age can bear them: if not, let it be done with the purgative syrup. Then let him

him drink of the decoction of china, which will prove a gentle diuretic. In the next place, the testicles should be corroborated by external applications, with discutients in the beginning, gradually ascending to astringents, wherefore begin with camphorated aqua vitæ, with an addition of lime-water, or sal. ammoniac. In these you may dip a linen cloth, and apply it to the affected part or rather foment the part with the same by the help of a sponge. For want of these remedies, you may employ the following resolvers, *viz.* Chamomile, rue, &c. which you may boil in brandy, or wine, and foment the testicles therewith.

If the preceding remedies are ineffectual, order astringents, as red-wine, in which you boil red roses, flowers of mallows, or balauſtines, &c. A cataplasm may be also made of resoluteve substances boiled in red wine, to which you add oxymel two ounces, to every cataplasm; or it may be made of bran boiled in the above astringment decoction; thus you combine your resolutives and astringments together. These are commonly sufficient, along with the patient's age, which as it advances, strengthens his Body. But if the
tumour

tumour still subsists, no other resource remains, but the puncture, which is performed with the lancette in children, and with the trocar in adults. By the help of the former suppuration, and the adhesion of the tunica vaginalis to the proper coat of the testicles are procured. When the wound is once cicatrized, make use once more of the astringent decoctions to strengthen the part, and put an end to the cure.

C H A P. XXII.

Of the ANI PROCIDENTIA; or, falling down of the ANUS.

THE anus sometimes falls down to four, and sometimes to twelve inches in length. The good women say, that so much of the whole intestine falls out. But repeated observations prove, that the internal coat only of the rectum, is lost. Anatomical dissections prove, that this coat is much longer than the rest; nay, that it is three times longer than the other coats of the intestines; for it is full of folds or convolutions, and loosely adhering to the fleshy coat, be-

ing connected to it only by some vessels, and a few nervous and carnos fibres: so that it moves on the fleshy coat, almost like the skin on the penis. This being certain, it is manifest, that this coat may fall down; if, 1. It be too lax. 2. If a propulsive cause acts upon it; for it is relaxed by all fluxes, as diarrheas, dysenteries, &c. through the great quantity of serum which in them is discharged. In the same disorders we also discover the propulsive cause by the frequent efforts the patient makes in going to stool, which is also observable in the tenesmus.

Infants are the more subject to this prolapsus ani, in proportion as they are more or less afflicted with fluxes, especially such children as are of a weak lax habit of body, and such as have the internal coat of the rectum very thick, long, and full of folds. For these reasons, some children are so very subject to this disorder, that by the least effort, the intestin appears; whilst others, by much stronger efforts are never affected with it.

SYMPTOMS. As to the symptoms of the prolapsus ani, they are very few, especially if the intestin be speedily reduced, which is done with great ease. But if it remains too long

long out of its place, the blood may stagnate in it through the interception of circulation; and an inflammation and gangrene may happen. Besides the intestine is difficulty reduced, if it remains in that state for a considerable time.

DIAGNOSTICS. These signs are manifest; for all the good-women will spare the physician the pains of learning the presence of the disorder, by his own inspection or touch.

PROGNOSTICS. The prolapsus ani is rarely dangerous, since it is commonly removed without remedies. But if by delay the intestine be still exposed, and becomes inflamed, scirrhus, &c. the disorder is very dangerous. I shall speak only of the cure of the former case, omitting these of the latter, or inflamed, or scirrhus disposition of the intestine.

CURE. I. The causes of the prolapsus ani should be removed, *viz.* the tenesmus, diarrhea or dysentery, &c. nor should purgatives be exhibited, if they may be possibly avoided; for they augment the disorder, for the same reasons, that the tenesmus, &c. do, or if purgatives are absolutely necessary, let them be very rarely used.

II. Let the intestine be fomented with warm red wine very frequently, in order to prevent inflammation and gangrene : then the intestine is to be replaced, and the patient should be hindered from making any great efforts at stool ; nor should he sit over a close-stool ; or perforated chair ; because they contribute to press out the intestin. If a more vulnerary fomentation than the former be requisite, it may be made of a decoction of St. John's wort, or Jerusalem oak. Then you may proceed to astringents when the part is reduced ; such are a decoction of balaustines, cypress-nuts, galls, sanders and red roses, boiled in red wine, or forge-water ; in which compresses may be dipt, and applied to the fundament, in order to fortify the sphincter ani, and procure a radical cure. The same things may be also conveyed into the rectum, to strengthen its tone ; or a suppository may be made of powder of balaustines, or red roses, or the other astringents abovementioned, with honey, &c.

Whilst these are applied externally, the patient may drink of the decoction of rupture-wort ; or what is more specific, and more

more in vogue for its gentle astringence in this case, is a decoction of brunella.

Thus the disorder is generally cured: but if it exceeds a simple prolapsus, by the inflammation, &c. which affect the fallen intestine, you are to order an anodyne cataplasm, as one made of crumbs of bread, and from thence gradually proceed to the crumbs of bread, boiled in red wine, the patient keeping his bed for forty days. If the part be in danger of a gangrene, let it be scarified, and the antiseptic remedies employed. If the mortification still spreads, the internal coat of the rectum should be cut off; for the operation has been often performed in such cases with great success: then throw up some astringent injections, &c.

C H A P. XXIII.

Of W O R M S.

WORMS are more frequently observed in infants, than in adults; consequently they may be accounted among the disorders of the former.

Our knowledge, I own, is very much confined, with respect to the physical causes of the generation of worms, and all other animals: but what regards the practice of medicine in these cases is pretty certain.

One of the most undoubted circumstances, and which is attested by several of the best observations, is, that these worms are of four species; 1. round and long worms; 2. round and short ones; 3. long and flat worms; 4. flat and short ones. The first are whitish, and like earth-worms; whence they are also called *lumbrici*: they are folded, and commonly observed in the intestines, and sometimes in the stomach. The second species are called *ascarides*, which lodge in the folds of the rectum: they are very like the worms engendred in cheese, and other putrefied substances. The third species of worms is called *tenia*, or *vermes fasciarii*, from their likeness to a ribbon. They are sometimes half a yard long, and seem to be composed of many sections: but they are not to be confounded with the *vermes solitarii*, of which immediately. The *tenia* is very rarely observed in men, but frequently

quently in dogs, &c. The fourth species are called *cucurbitini* : they are short, flat, and are frequently discharged. They have a very particular conformation of their body ; for at one side they have four crochets, and at the other they have four small cavities, corresponding to the crochets ; so that they seize a worm at one side, and are graped by another on the opposite side. For these reasons we sometimes observe above three hundred of these worms to form one continued chain, which seems to be only one worm, of perhaps ten feet in length ; whence it has been called by some authors *vermis solitarius*, whilst it is composed of many *cucurbitini*, each of which lives by its proper life, otherwise, four or five feet of the whole being extracted, as some have observed, the remainder should have perished. But observations prove the contrary. *Valisneri* has wrote one of the best treatises, I know, of worms, where we find this composition of the *cucurbitini*, asserted and proved by several experiments. From what we have said of this last species of worms, will plainly appear, why the head and tail of this *vermis solitarius* were never observed, though

it really has such, since it is composed of *cucurbitini*, each of which has these parts. I do not choose to give the name of *vermis solitarius* to this composition of *cucurbitini*, though it seems to have the requisite length of such a worm; and if there be a genuine one, it is to be met with only in the fish called a tench, or in dogs; but never in men. A very difficult question presents itself here, *viz.* why many *cucurbitini* are inclosed in a kind of bag or purse, and excluded in that manner from the body; and how this bag is formed. As to the bag, I imagine it is formed of viscid mucilaginous matter, ejected by the worms, and in which they wallow, so that they are at last surrounded with it. That it is rather a mucilaginous inspissated matter, reduced to this form and consistence, than a true membrane, seems to be proved by its texture, in which not one fibre is observed. M. *Valisneri* is of opinion, that this bag is ingendred along with the worms: but this is uncertain.

C A U S E S. The antients attributed the origin of worms to putrefaction; but we may confidently affirm with the moderns, that all animals are produced from eggs; and that

that in the eggs, as in miniature, are contained their forms; nor has corruption, fermentation, &c. any power in their production: but a more exquisite mechanism is employed in their formation; for we may as well say with the Epicureans, that the fortuitous concourse of atoms has created the world, as that these animals are produced by putrefaction, &c. Therefore nothing less than infinite wisdom has been employed in their creation.

We are in the next place to observe, that the eggs whence these animals spring, proceed likewise from worms of the same kind, by the males of which they were also fecundated. The same thing may be also understood of all other insects; and the same idea may be formed of the generation of all animals. But whence spring these eggs in the human body? This is a difficulty which I don't pretend to explain; only it is to be observed, that some animals, as the present, are engendred worms, and always retain that form; others, on the contrary, are worms at their generation; but afterwards become volatils, as the butter-fly, ordinary flies, &c.

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As to the other particulars which regard their generation, as why they should be of various species, as *lumbrici*, *ascarides*, &c. their origin in the human body, &c. I can tell you nothing certain of the matter. But what we have said of their theory, will be sufficient for the purposes of practice.

In order to know what remedies will be useful, and how they should act in this disorder, it will be necessary to observe, that for the generation of worms, are necessary, 1. heat; 2. a moist place; 3. that this humidity be sweet or insipid, mucilaginous or viscid, but not acrid. Where we, therefore, meet with these three conditions, the subject will be very proper for the generation of worms. The first and second conditions need no explication, and they are to be met with in all subjects. But the third seems to make this disorder peculiar to children, in whom this condition is rarely wanting, through the balsamic and insipid nature of all their humours, and their indigestions, which are commonly of the same quality, or, as I may say, acescent. This disposition is also induced by the abuse of sweet, mellow, and ripe fruit, as apricots,
figs,

figs, prunes, melons, cucumbers, &c. all which yield a mucilaginous matter. The same thing may be said of sugar, and all things seasoned therewith; as also much milk, chesnuts, a sweet bile, &c. All these causes will have more sensible effects on phlegmatic, bloated constitutions, such as are fat, have white hair, a very white and tender skin, than on such children as have black hair, are of a red and fresh complexion, of a hot and robust constitution, &c. Infants, therefore, are more subject to worms than adults, 1. because their bile is less acrid; 2. because all their indigestions are sweet and insipid, or at most acedcent, as they eat too much; but in adults all their indigestions are more or less acrid. 3. Infants eat more of sweet, sugar'd, and mucilaginous meats, and drink little wine, which is really an anthelmenthic, wherefore adults, who drink more plentifully of it than children, suffer less by worms. From the foregoing explication we may also infer, that all women and girls are more disposed to engender worms, than men and boys.

SYMPTOMS. I. Acid, or rather acedcent, eructations, whereby the very nurses com-

commonly discover worms. These are produced by the indigestions of the patient.

II. Nauseas and loathing, from the relaxation of the stomach, and the insipid matter whereby it is lined.

III. By the acedcent eructations or vapours, the pituitary membrane is irritated, whence spring itching of the nose, and sometimes sneezing.

IV. Copious spitting, from the irritation of the mouth by the same exhalations.

V. The patient eats, drinks, and rests very little; his aspect is mournful, and his eyes sunk in his head.

VI. A dry cough from the irritation of the larynx, by the vapours ascending from the stomach.

VII. Frequent yawning, from the lentor and spissitude of the blood through the indigestions, whence it stagnates the more easily in the lungs: therefore this symptom happens by sympathy, and is intended by nature to move the stagnant humours.

VIII. Hiccups, from the irritation of the superior orifice of the stomach.

IX. By the contraction of the intestinal fibres,

fibres, is produced a hard swelling of the abdomen.

X. A train of other symptoms appears, as agitation, watchings, consumption, and diarrhæa, through the indigestions, the irritation of the intestins, and the acceleration of their peristaltic motion; whence the ill-concocted fæces are precipitated. Hence also spring convulsions, or convulsive motions, with a shivering of the teeth, and this very frequently during the patient's sleep, through the sympathetic convulsion of the lower jaw. Finally, an irregular erratic fever supervenes, attended with cold and hot fits: this springs from the indigestions and irritations caused by the worms.

DIAGNOSTICS. 1. The existence of the disorder should be learned. 2. The species of worms, particularly the *lumbrici* and *ascarides*; the *tenia* and *cucurbitini* being very rarely met with in children.

I. We have reason to suspect the existence of the worms in general, if the patient is accustomed to void any of them; if he be pale, of a delicate complexion, and exercises little, &c. on the contrary, we have no reason to suspect worms if the patient be strong,

strong, has black hair, a fresh colour, and exercises much; for all these denote the acrimony of his humours, which will harbour no such insects. In the next place, if the patient eats much of sweet-meats, and the other things above-mentioned, we have reason to think he has worms. But the symptoms which more immediately denote their existence, are itching of the nose, nausea, belching, &c. whereby the women also know the disorder. This being once discovered, the species of the worms should be in the next place learned. If they be *ascarides*, the patient feels troublesome sensations about the fundament, tenesmus, &c. but the sensations are higher if they be *lumbrici*, and all the symptoms before-mentioned appear, few or none of which are caused by the *ascarides*.

PROGNOSTICS. Indigestions produce several bad symptoms in this disorder, besides these occasioned by the worms, so that the disease in general is troublesome: But it is not equally so in all its species. The *Ascarides* are not so troublesome as the *Lumbrici*, and these are still more so, if they be numerous. The colour of the last causes also
some

some variety ; for, whitish lubrici denote the mildness of the humours and worms ; though this colour is owing very frequently to their death. If they be on the contrary, grey, of a violet-colour, or black, it denotes their malignity ; yet we are not to depend very much on this sign. Worms are also more or less dangerous from the passages they take ; if by the anus, little is to be apprehended ; but very much, if they ascend by the stomach into the œsophagus ; for several have perished by this means, the worms having entered the trachea arteria, and if this does not happen, they enter the cavity of the nose. The disorder is likewise of bad consequence, if convulsions, epilepsy, &c. supervene.

CURE. The physicians first intention should be to discharge the fruit, confections, boiled meat, &c. in which the infant trespassed before. Let him be fed only with light broths, soup made up with oil ; for this is not subject to putrefaction, panada, &c. The nurses diet should be also much the same. The infant should be then purged, more or less briskly, according to his age ; though nothing is to be apprehended here from

from the action of a brisk Remedy, through the verminous or mucilaginous matter contained in the *primæ viæ*. Let his medicines be bitter, such as powder of aloes five grains, or the hiera-pica; but this is too unpallatable: Wherefore it should be corrected with some other things, or substitute in its place, syrup of peach flowers, with an infusion of fenna or rhubarb, adding, if necessary, some few grains of aloes, or drops of hiera-picra. In the next place, you may proceed to the following remedies, which I have digested into classes. You are to begin with the mildest, as usual, still ascending to the more powerful, for all are not requisite; wherefore a choice should be made among them.

I. Mercurial preparations, which are the most efficacious anthelmenthics; such are æthiops mineral, cinnabar, panacia mercurialis, mercurius dulcis, mercurial water, and mercury extinguished with sugar by trituration. This last is given from three to eight grains, according to the child's age, in his panada soupe, &c. The mercurius dulcis is given in various doses, and is extremely efficacious in worms, for it kills these by the mercury, and purges, irritates, &c. by its

its salts. To these who suck it is given to 3 or 4 grains; to weaned children to 6. The æthiop's mineral and panacea, are ordered for such children to 12 grains; but in a smaller dose to younger patients. The mercurial water is ordered in very large quantities, being less active than any of the other remedies here mentioned. These preparations in general are such powerful anthelmintics, that it has been frequently observed, that they kill live worms out of the human body in a minute.

II. This class comprehends bitters, which are anthelmintics, inasmuch as they are contrary to the insipid sweet humour wherein the worms lodge; for they correct this quality, and attenuate the spissitude of these humours at the same time: such are, contrayerva-seeds, worm-seeds, aloes, rhubarb, worm-wood, centaury, tansey, and hiera picra. These are ordered in substance or decoctions, to 18 grains. The powder is given with sugar: the aloes and rhubarb are given in a much smaller dose than the rest, to 8 grains only to grown children. The decoction of the above plants may be taken to two ounces at a time. As to the hiera

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picra,

picra, it is hardly ordered for children under five years old; and then it should be mixed with some proper syrups to correct its extreme bitterness.

III. Acids which are acrid in a moderate degree, not inclining to a sweetness, viz. oxymel to two spoonfuls. This is taken fasting alone, or with lemon juice, or some oil: or let the patient take in simple water, or ptisan of dogs-grass, some drops of spirit of vitriol, or sulphur, to procure a grateful acidity. This acidulated water may be also combined with the oils or syrups.

IV. Oils and oleous remedies, as oil of sweet or bitter almonds, the last being much more powerful; but it should be mixed with the former to correct its bitterness, or with olive or linseed oil, which is preferable. Petroleum is also ordered to a few drops, three for instance; but it is too corrosive to be ventured on, at least alone; so that if it be used, let it be with some gentle oil, as that of sweet-almonds, &c. This oil and the petroleum both together, may be also combined with the above acids and syrups. Af-

ter

ter the mercurials, I esteem these the most powerful anthelminthics.

To these specific anthelminthics, may be added, a variety of other remedies, recommended by several authors. These are, 1. Corallin, a sea moss, or kind of plant ; it is bitter and absorbent, and may be exhibited in powder, to half a scruple or one scruple. It may be also added to the oily potions above-mentioned. 2. Prepared harts-horn, or the shavings of harts-horn, in proper decoctions, 3. Worms reduced to powder are celebrated as a great specific by some ; but others say this powder engenders worms. However, I would not recommend this remedy. The following waters are much in esteem for this purpose, *viz.* the water of purslain, that of succory, that of wood-sorrel, that of germainder, that of lemon juice, and that of dogs-grass. The powder of harts-horn, or of corallin, may be added to these waters, or made into boluses, lozenges, &c. Finally, garlic and scordium are highly recommended ; the former is an excellent remedy, and much in use among country people ; the latter is also good, for

it approaches very much to the qualities of the former by its smell, &c.

Besides all the foregoing remedies employed to kill worms, clysters likewise are to be injected : these are of two sorts, in the beginning sweet ones are used, to attract the worms into the rectum. They are made of milk, or a decoction of sebestens, fat figs, and currants, with the addition of sugar-candy, honey, &c. After the use of these, bitter clysters are thrown up, as decoction of worm-wood, with an addition of hiea picra, or two drams of aloes ; for these kill the worms, and I like very much this practice : but you are to depend more upon the mercurials, especially the mercurius dulcis.

C H A P. XXIV.

Of the SCROPHULA, *or* KING'S-EVIL.

NOW we come to the universal disorders of children, which are the scrophula, rickets and marasmus. As to the scrophulæ, they are tumours of the conglubate lymphatic glands of most parts of the body.

body. They become larger and harder than before; yet they are not scirrhus, and all this without any sensible change in the skin, without redness, pain, or heat. As this disorder is in the lymphatic glands, the peccancy of the lymph must have given rise to it. They are very manifest in the neck, arm-pits, groins, all the articulations, in the centre particularly of the mesentery, or pancreas asellii, in the lungs, brain, especially in the plexus choroidæus; yet all the glands of each of the mentioned parts are not obstructed at the same time, but by degrees; so that some are very small, whilst others, which were first obstructed, are of a considerable volume, the whole resembling a bunch of grapes. From the bulk of a pepper-corn they sometimes grow to the bigness of a pidgeon's egg. If the disorder be malignant, the bones become very often carious.

DIFFERENCES. The scrophulæ are distinguished, 1. into external and internal. When the internal glands, or those of the different viscera above-mentioned are obstructed, the disorder is internal, and several other diseases follow, as dropsy of the breast and head, fluxes, colics, &c. The scrophulæ

are called external, if the above-mentioned glands of the neck, arm-pits, &c. are obstructed. These the ancients called emunctories, and thought that all the malignant humours of the body were discharged by them, as the virulence of the pox by the glands of the groin, &c. the virulence of a malignant fever by the parotids, &c. But all this theory is exploded, and has lost its credit. 2. A most important distinction is from the state of the scropulae, which may be inflammatory scirrhus, or simple; for the glands may be hard as a stone, painful and red, or afflicted with a suppuration, which continues very long in these glands, through the inactivity and mucilaginous quality of their contents. Finally, they may be carcinomatous, and the soft extremities of the bones may be affected, especially if the lymph be saline. Hence exostoses, hyperostoses, anchyloses, &c.

CAUSES. In order to understand the action of the causes on the lymph, it will be necessary to give a general idea of its circulation. The conglobate glands of the lymph, have naturally a globular form, each being divided into many cells, covered each
with

with its particular membrane, and the whole with a general one, almost like the lungs, and particularly the thymus. The lymph is conveyed to these organs by many small vessels, to which the glands serve as so many stages, or organs of conveyances, from which the lymph is exported by larger trunks. *Rudbekius* and *Bartholinus* were the discoverers of these vessels and organs; for the blood-vessels only, and these of the animal spirits, were observed before. The arterial extremities degenerate into lymphatics, and secrete this lymph, which is brought back into the mass of blood by lymphatic veins. Thus the lymph that is secreted in the extremity of the foot, and about the heel, is deposited in the glands of those parts; whence larger, but fewer, lymphatic trunks rise, and convey the same lymph to the knee, the number of the excretory lymphatics still decreasing, but their diameters augmenting in proportion, till they arrive at the glands of the groin. Thence the lymph is brought by the same mechanism to the mesentery, receptaculum *Pequeti*, and subclavian vein. The same thing may be observed in the hands, the lymph of the fingers and palm

of the hand being conveyed to the glands of the wrist, then to these of the elbow, axillary glands : and by the *vasa torifera* of *Bilsius* to the subclavian vein, by the same gradation of vessels, as we observed above. The mechanism of this circulation is much the same in the head, whose lymphatics descend to the lower jaw, then to the *vasa torifera* of *Bilsius*. Thus the lymph of the whole body is secreted, and brought back by various stages to the blood. But why is the circulation of the lymph so extraordinary? and why so different from the circulation of the blood? Our knowledge is very much confined in this respect; nor do we so well know the intentions of provident nature in these varieties. If we believe some physicians, the conglobate glands of the lymph are intended to express this humour, and accelerate its circulation, which would have been otherwise too slow through the weakness of the lymphatic vessels. But I find no moving force, or carnosus fibres in these glands: besides, if God had intended this structure to accelerate or shorten the course of the lymph, could he not have formed the lymphatics like the blood vessels? Wherefore I am of a
contrary

contrary sentiment to these authors; for I suppose the great number of these vessels and glands to be intended for no other purpose, than to render the circulation of the lymph slower, and thus the better repair the losses we daily sustain. Hence the lymphatic vessels and glands are so numerous, so full of valves, and their membranes so weak.

The circulation of the lymph being so slow, if the lymph be viscid, it will easily stagnate in these vesicles, which are otherwise always full of this humour. Now let us examine what may be the causes of this particular spissitude, and how some glands only are obstructed, and why not all: but if all the glands of the body were thus affected, sudden death would follow.

To explain these causes, we are to divide them into general and particular.

The general causes are three, 1. The non-naturals. 2. A pocky degenerate virus. 3. A particular scrophulous one. Under each of these we shall range their particular causes.

I. The non-naturals produce the scrophulæ without any hereditary labe: such are acrid or acid breast-milk, or its spissitude,

too

too much of mellow fruit, or the abuse of confitures, and other sweet and sugar'd things, hard indigestible aliments, too great cold, preceding disorders, whence this evil appears in some families where it never appeared before.

II. A more frequent cause is a pocky virus ill cured, which lodges in the semen and lymph; so that if it does not produce this disorder in the father, it will in the son.

III. A particular scrophulous taint hereditary in the family, or communicated by the nurse, who had this hereditary taint.

Let us in the next place examine, how some glands in particular are obstructed, whilst others are free. This I can attribute to nothing else than to external injuries, to which the glands of some parts are more exposed than those of others; for the glands which are kept very warm, as their contents for the same reason are kept very fluid, are rarely obstructed. Thus the glands of the neck, hands, and feet, are more exposed to cold, than other glands, whence their lymph is the more inspissated, and disposed to stagnation. Pus mixed with the lymph in abscesses in the feet, head, &c. returning in the lymphatic

lymphatics, obstructs the glands of the groin and neck. The abscesses of the breasts give rise to the obstruction of the axillary glands. An ill elaborated viscid chyle, obstructs the glands of the mesentery, or the pancreas asellii; and if this viscid crude chyle is carried into the course of circulation, it may obstruct the pulmonary glands; whence spring tubercles, and a tuberculous phthisis. To these add the particular causes which determine the afflux of this viscid lymph to some particular glands, by debilitating and compressing them. Thus compression, strokes, frequent handling, &c. of some glands, contribute to their obstruction. Besides the natural conformation and structure of all the glands of the body is not the same, nature having given them a weaker and stronger texture in different places, like all the other parts of the body: thus the weaker are obstructed, whilst the stronger remain pervious. By the various combination of these causes, we have also the various symptoms and phenomena of the *King's-evil*.

SYMPTOMS. Most of these, which in general are but few, I have before explained; wherefore I shall not insist long on 'em.

I. Tumours

I. Tumours of the glands from the determination of a viscid lymph into 'em.

II. The obstruction is gradually communicated to the collateral glands, through the compression of the infarcted ones; whereby the lymph is more abundantly conveyed to the pervious ones; the last affected being smaller than the first, and the whole resembling a bunch of grapes.

III. They are harder than in the natural state, though not of a scirrhus hardness.

IV. They are without pain, because the obstruction was slowly formed, or by congestion.

V. The matter being much more hardened, the glands become scirrhus.

VI. They are inflamed, if their contents are put in motion by strokes, compression and frequent handling; thence pain, heat, redness. &c.

VII. This inflammation often terminates by resolution, and frequently by suppuration; and sometimes the inflammation disappears, the glands still remaining tumid and scrophulous. The external glands, especially such as are exposed to injuries, are subject to these

these accidents, as also to become scirrhus and carcinomatous.

The *King's-evil* frequently disappears about the fourteenth year, the action of the solids and attenuation of the fluids, particularly of the lymph, being then considerably promoted, and the stagnant lymph diluted, attenuated, and expressed out of the glands.

This superior activity of the solids makes the disorder more curable in boys than girls; though if the menses flow duely with the latter, they carry off the *evil*: but if it subsists still in both sexes, it commonly remains all their life time. If these obstructed glands are opened by suppuration or incision, the ulcer spreads very much soon after their aperture, and pushes out a fungous flesh. The scirrhus or carcinomatous glands are also very subject to become considerably large, and the same way.

DIAGNOSTICS. I. The scrophulæ are discovered by inspection, if they be external, for the glands are round, moveable, and without Pain, heat, or redness. The internal scrophulæ must be conjectured at, either by the affection of the external glands, or by the symptoms. Thus if the glands of the mesentary

mesentery are obstructed, a slow fever, swelling of the belly, dry cough, &c. supervene. If a hydrocephalus appears, the glands of the brain are affected, and so of the other parts.

II. The various species of the disorder are palpable, whether the scrophulous tumours be simple, scirrhous, carcinomatous, inflamed or suppurated; for these will appear to the eye.

III. The causes of the disorder are of no great importance, whether they be known or not; seeing the cure of all is much the same, only in the *King's-Evil* arising from a degenerate lues, we must insist the more on mercurials.

PROGNOSTICS. This evil is a very chronic and obstinate disorder, seated in the lymph, and far from the action of remedies. Yet it is rarely mortal, except in some cases, where it produces malignant ulcers. In particular the external scrophulæ are not so dangerous as the internal.

This simple *King's-Evil* is the most favourable; but the disorder is generally incurable, if the glands have degenerated into ascirrhous cancers, inflammation, or abscess, &c.

It

It is more easily removed in children than in adults, in girls than in boys, through the eruption of the menses in the former, whereby the cause of the evil is lessened. If suppuration happens, it gives commonly occasion to an ugly cicatrice, through the great loss of substance, besides the extraordinary or milky whiteness of this cicatrice which it retains during the patient's Life, and whereby he is known to have had the *King's-Evil*. Wherefore this (suppuration, which however is difficultly done) should be prevented. During the child's minority, or till the age of twelve or fourteen, all the physician's intention should be employed only to check the growth and diminish the bulk of the tumours, but not to employ resolutives, for fear of inflaming the glands, nor can he expect to remove them, till age does it.

CURE. The treatment of the *King's-Evil* extends to three or four different kinds of the disorder. 1. The simple scrophulæ. 2. The inflamed ones. 3. The suppurated or ulcerated glands.

I. A rule to be observed in the cure of the simple scrophulæ, is never to apply or order any thing which may put their contents

tents into a suppurative motion, lest they should have the consequences above-mentioned. Wherefore they are to be treated very gently, hindring only the growth of the disorder till the child comes to twelve or fourteen. But the viscid lymph should be in the mean time corrected, by diluents and its acrimony removed. In order to this, let the infant be blooded, purged, and his humours diluted with thin pullet-broths, whey, baths, half-baths, and mineral waters, ordering attenuants at the same time, as,

I. The preparations of steel, crocus of mars, salt of mars, and soluble tartar of mars, I own pall the stomach and intestins; wherefore they are to be cautiously exhibited.

II. Preparations of antimony, as diaphoretic antimony, bezoar, mineral, and Potter's antihectic, which pall the stomach less than the chalybeates.

III. Mercurials, as aquila alba, panacea, and æthiop's mineral, which is the best and most gentle of all.

IV. Gums, as galbanum, assa foetida, gum ammoniac, to two grains.

V. Animal

V. Animal substances, as the powder of millepedes, green lizards, grasshoppers, and toads, which are macerated in vinegar, dried and powdered. The dose is twenty grains in boluses, lozenges, or electuaries; to these add the use of diluent and moistening medicines.

The following are remedies employed by empirics: 1. Decoction, or powder of sea spurge, whose effects are owing to the sea salt it contains: its dose is to one scruple. 2. The roots of scrophularia major, reduced to powder: this is efficacious, and may be exhibited to half a dram without danger. It is also infused in beer, as is the paronychia flore luteo. These and many more are recommended by Mr. Boyle; but he has received many of them on trust, or on the word of other persons. A decoction of the woods is also recommended. Besides all these remedies, gentle purgatives are to be used for children: but scammony, turbith mineral, diagridium, and jalap, for adults.

Thus far of the cure of the simple scrophulæ. No topics should be applied but

a little cotton, with oil of rue, or cotton warmed with the fumes of amber.

The following topics are to be entirely banished: oil of lizards, and that of toads; of which liniments are also made, by adding a little wax. Some use spirit of sal armoniac, or that of urine, with Galen's cerate. Some apply emplastrum diachylon cum gummi, the homloc plaister, the soap plaister, or the emplastrum diabolanicum cum mercurio, jointly or severally. Some recommend the roots of cyclamen, wild cucumber, and bryony, reduced to a pulp, with oil of toads, and formed into a plaister. Some make use of fumigations, with the scorice of antimony, fumes of vinegar, or mercurials; but all of these heat and inflame the parts, and consequently are not to be used. If there be a hereditary taint, or the physician is importuned to order topics, let him first bleed and purge, and order a strict diet, especially if there be a fever. Then he may order a plaister of the crumbs of bread, or of rice and milk, to relax and soften the glands: but if suppuration cannot be prevented, let it be accelerated by emollients, as a cataplasm,

plasm of wood-sorrel, bears-britch, mallow leaves, and the bulbs of aloes roasted under the ashes, with an addition of oil of lilies, and to render it more efficacious, add some snails, or old leven or basilicon. These are continued till the whole gland is destroyed, nor should it be opened till then, otherwise it would never resolve, or suppurate; on the contrary, the remainder would grow hard and scirrhus.

It may be opened with the knife or lancet, or, which is better, with a caustic, for this destroys the useless skin which covers the gland. Let it then be dressed, like all other ulcers, with dry lint, simple digestive or that animated with some proper powder or tincture, to deterge it, if sordid: afterwards use the aqua scrophularia, then the green balsam, or that of *Arcaeus*. If there be any callosities, let them be destroyed; but if you be imprudent in treating these callosities, a fistulous ulcer may supervene. To destroy the callous lips, cut them with the knife or lancet, or destroy them with a caustic, the lapis infernalis, or troches of corrosive sublimate mercury. If the knife

cannot well do the business, these are used ; but never use the troches of arsenic. A certain diaphoretic antimony, with other remedies, are employed in the scrophulæ by an empiric, mentioned in my treatise of venereal disorders ; but I would not here recommend his purgative pills.

C H A P. XXV.

Of the RICKETS.

THIS is a late disorder in *Europe* ; first appeared in *England*, and was described by *Glisson* and *Mayow* ; but I imagine it appeared at the same season over all *Europe*, through the coldness of the weather. It is called rachitis, which in Greek signifies spina, because the spina dorſi seems to be particularly affected with this disorder : thus nephritis, hepatitis, phrenitis, &c. are so called from the parts they affect. The rachitis is characterized by certain symptoms ; for the infant's head is over-grown whilst the muscular parts are extremely reduced

duced and emaciated. The futures of the head are membranous and soft: the heads of the bones swell, and the bones themselves become crooked. The spine is variously contorted, whilst the sternum is eminent, and raised almost to an edge: the patients bellies are swelled and renitent; they are vivid and ingenious. They love to sit, but never to walk. They lie on their back, rather than in any other situation. The disorder generally appears from the twelfth month to the third year, and sometimes, but rarely, to the fifth. To explain the curvature of the bones, two ingenious hypotheses have been invented: the first by *Glisson*, who fancied that the unequal nourishment of the bones produced this deformity.

The second by *Mayow*, who explained this phænomenon by the unequal traction of the muscles, the shorter of which, according to him, drew the bones to their side. But these two systems are liable to unsurmountable difficulties: wherefore I think the following account of the disorder better.

As the bones are preternaturally soft, it is to be concluded, that there is a vicious ferment in the blood, which holds a medium betwixt that of the pox and scurvy, since it is not so active as the latter, nor so slow as the former. The lymph impregnated with this acid salt or leven, has a greater influence on the bones, which it penetrates, than on the soft parts; just as aqua fortis dissolves silver, but not gold. Thus the bones grow softer and bigger, particularly such as are most exposed to cold, as those of the hands and feet. The disorder still augmenting, the spina dorsi is at length affected, the vertebræ grow softer, and by their perpendicular situation and weight, become thinner, especially in the neck. Thus the medulla spinalis, vertebral nerves and arteries, with the carotids, are compressed. The head is glutted with humours, and its bulk augmented: it also turns to one side, backwards and forwards. All the vertebral nerves being compressed, a relaxation and inactivity is produced in all the parts where they are ramified; hence nutrition is ill performed, as we see in a palsy, the humours

humours stagnate in the viscera, and the air expands the intestines; whence the tumour of the abdomen. From the lentor, spissitude, and stagnation of the humours, tubercles are formed in the lungs, head, and other parts of the body; so that the bulk of the affected part is not owing to a genuine nutrition, but to the peccant state of the lymph. The body is turned side-ways, when the vertebræ are more swelled on one side than on the other. The same thing may be said of the curvature of the spine backwards or forwards; in the latter of which cases particularly, the ribs are flat, and streightened from their compression by the swelling of the transversal apophyses, just as if they were compressed with the hand. The foot is turned towards the outside, if the head of the femur is swelled on the inside: if it is swelled on the outside, the foot is turned towards the inside, &c. The curvature of the bones in the middle, is owing to their unequal nourishment.

As to the child's vivacity and wittiness, they proceed from such a tension of the fibres

of the brain, as is produced by wine. Thus the animal spirits are strongly agitated and retained in the brain. Through the obstruction and compression of the nerves, the spirits are abundantly secreted in such patients, in consequence of the great quantity of blood retained in the brain.

Let us now enquire whence springs this adventitious ferment. Several authors derive it from the *Lues venerea*, finding some analogy in the symptoms of these two disorders. I own the *Rickets* approaches to the nature of a mild *lues*, when it is of the hot kind, or when the rachitic fomes is more active than ordinary; but not when it is cold and inactive; for in the former case, it produces a caries of the bones. But the rachitic fomes may be more justly said in general to preserve a medium betwixt the pocky and scrophulous virus; for like a scrophula, it often produces a caries of the teeth, through the acrimony of the saliva. If repellents are applied to the tumified extremities of the bones, a caries may happen. The *lues* incurred in the father, may degenerate into the rickets in the son. The same thing may be said

said of the *King's-evil*, if the ferment be active ; so that reason and experience evince what we have advanced of the rachitic fomes. This virus may be also produced by the nonnaturals alone, as long continued and obstinate indigestions, chronical disorders, difficult dentition, frequent fits of an epilepsy, and a great many other obstinate disorders, which occasion watching, bad digestions, and other violent symptoms.

DIAGNOSTICS. An incipient, and confirmed Rachitis, together with their causes, should be discovered.

I. It is of very great consequence to discover this disorder when it begins, in order to prevent it. It begins by a slight swelling of the wrist, in the lower part or heads of the tibia and peronea or fibula, as also about the knee. Examine at the same time whether the patient's teeth are black, or he has difficult dentition, swelling of the abdomen and other symptoms.

II. The disorder when confirmed, is discovered by the manifest tumours of the head and other bones, particularly these of the spine, which the disorder rarely affects
till

till it is far advanced. The patient cannot walk, but always sits. The incipient rachitis may be farther conjectured at by the softness of the head, its membranous sutures, difficulty of walking, the patient's gradual decay, and the scrophulous or pocky state of the infant's Parents.

III. As to the causes of the Rickets, they are discovered particularly by the disorders reigning in the family; whether the *lues*, *King's-evil*, or other cold tumours. If none of these appear, the nonnaturals are to be suspected.

PROGNOSTICS. The disorder is moderate, and easily removed in the beginning, if proper remedies are used; but a confirmed Rachitis is dangerous and incommodious; for it either diminishes or destroys all the functions of the human body, renders respiration difficult, and digestion languid. The patient is constipated, and when any excrements are discharged, they are not ting'd with bile. Besides, though a confirmed Rachitis is cured, it always leaves behind it a considerable deformity of some part, as a relaxation or swelling

swelling of the joints, whence lameness. The disorder is more speedily and easily removed, in hot countries than in England. If the disorder begins soon, as about the twelfth month, the danger and difficulty of curing are the greater, in consequence of the softness and delicate structure of the bones. An universal Rachitis is very difficultly cured; as also when it is attended with great obstruction of the viscera, and a slow fever, the last of which may degenerate into a dropy of the head, abdomen, or some other part.

CURE. In order at least to check the progress of the disorder, the patient should go into the country, to breath a good and free air. Let him also be carefully and gently rubbed on the affected parts. Let him take mild attenuants, and be thus treated, till eight or ten years of age, at which time, both by age, and the methods prescribed, the growth of the disorder is very much stopped.

As soon as the Rachitis begins to decline, the patient commonly grows quickly, so that one year he will grow more than in three before.

As

As to the patient's regimen, it ought to be varied according to his age. Let this be the regimen of very young children. If the child be weaned, let his pap be well boiled, adding the yolks of eggs to it. Let him abstain from flesh-meat; or, if he eats any, let it be well seasoned with aromatics, as cinnamon, nutmeg, &c. Let his bed be of straw, in which are put chopped or pulverized aromatic plants, as thyme, majoram, or mint. Let him take a little wine, good red wine especially, either by itself, or mixed with his ptisan. Let him walk heartily, or if he can't, he must ride; but if the infant be incapable of either of these exercises by his tenderness, he should be well exercised in his cradle, by frequent and violent jolting. Frictions of the affected parts are also used, especially of the spine, with a flannel cloth warmed with the fumes of amber, &c.

The patient should in the next place take an emetic, proportioned to his age, as from one half to one grain of stibiated soluble tartar, or two grains of the powder of ipecuan. Let this method be taken once a month; for the stagnant humours are put in motion thereby.

thereby. Cathartics are also employed, as tincture of rhubarb, exhibited in some bitter decoction: if the child be older, add some manna to the former.

As to alteratives, the patient is to begin with diluents, and then proceed to aperitives, which approach to the quality of antiscorbutics. Among the former are maiden-hair, ceterach, wall-rue, polytrichum, scolopendria, and agrimony, with a sufficient quantity of the five aperient roots, to be taken twice a day. These are not only diluents, but also gently aperitive. The following are still more aperitive, viz. broths of Osmund royal, which is accounted very specific: in this case the roots of asparagus, common eringo, butchers-broom, burdock, and capers, as also the red tincture, are proper. If you employ these, two ounces of each may be taken.

If more antiscorbutic plants are still necessary, order leaves of scurvy-grass, beccabunge, sage, ground-pine, and the lesser centaury.

When the disorder is confirmed, you must have recourse to more powerful aperitives,

tives, as preparations of steel, crocus of mars, aperient tincture, and salt of mars. Of the preparations of mercury, are æthiops mineral, and cinnabar. Of antimony, we may use the diaphoretic antimony, and bezoar mineral. To these, add the powders of vipers, and millepedes prepar'd in boluses, or electuaries, which may be continued for fifteen days, along with the apozemes, &c. above-mentioned, at the end of which time, purge the patient, and suspend your remedies for fifteen days more; then resume them again, and so on till you come at length by the help of your remedies, and the age of the child, to get the better of the disorder.

Besides the preceding remedies, a decoction of two, three or more, of the woods may be prescribed; but for the patient's ordinary drink, a decoction of china will do better.

The following remedies are recommended as highly beneficial, by the famous Boyle.

I. Ens veneris, or the flowers of sal ammoniac, and the colcothar of blue vitriol
sub-

sublimated together. He assures us, that by the help of this remedy from 5 to 15 or 20 grains, he has cured vast numbers of ricketty children; and moreover that it procures sleep; in which respect we may compare it the sedative salt of *Homborg*. But though it is a good remedy, yet it falls short of these encomiums, and all its virtue is owing to the incisive attenuative quality of the sal ammoniac.

II. Flowers of mars, or sal ammoniac, or the flowers yielded by the sublimation of iron and sal ammoniac together. Their dose is from 2 to 10 grains: both these remedies correct, and, as it were, bridle the drastic quality of each other.

III. Chalybeate tincture, viz. the filings of iron boiled in vinegar to the consumption of one third of the liquor, and then poured off by inclination. Thus the pores of the iron are impregnated with the particles of vinegar. Its dose is from six to twenty-six drops.

To these remedies you may add elixir proprietatis, made without acids, or other elixirs, which are grateful to the stomach,

stomach, and aperitive at the same time. Another remedy much in repute for its efficacy, is an infusion of rhubarb, in which are boiled some pieces of rusty iron.

CHAP. XXVI.

Of the EXTENUATION, or DECAY *of* CHILDREN.

THIS disorder frequently happens to children, rarely to adults. The former are very feeble, restless, pale, and emaciated, so that they daily pine away.

The disorder commonly terminates in one or another of the following: 1. A languor, excessive consumption, and syncope. 2. A colliquative diarrhæa. 3. Dropsies of the head, breast, abdomen, or anasarcas.

CAUSES. About 80 years ago, not only the good women, but also most physicians, as *Bergarus*, &c. attributed the source of this disorder to incantation or fascination, because they could discover no other

ther manifest causes of it. Some in general called it *macies*: but to give a more reasonable account of its causes, they may be reduced to the following heads in general.

1. Because the patients take little or no nourishment. 2. Though they take it in great plenty, yet they dissipate it more abundantly. 3. The combination of both these causes.

I. The disorder happens, when the infant eats nothing, or though he eats, when his digestion is so ill performed, that little or no good chyle is supplied.

II. His nourishment is dissipated by *diarrhæas*, habitual fever, or watchings. In a word, by all slow disorders, which commonly terminate in a *macies*, or decay, as *tinea*, difficult dentition, ulcers, or other purulent affections of the lungs, whether dry or humoral; obstructions of the mesenteric glands, worms, dropfies, *diarrhæas*, stone in the bladder, or the universal disorders, as the *King's-evil*, *lues venerea*, slow fever, rickets, &c.

SYMPTOMS. The symptoms of this *macies*, or decay, are manifest; but the most remarkable are,

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I. Watch-

I. Watchings from a kind of dull pain, consumption, sensibility of the parts, heat, and acrimony of the humours.

II. Slow fever from indigestions, or the retention of excrementitious humours, watchings, or other causes.

III. OEdeematous tumours, particularly of the feet, which mount at length to the kidneys, and kill the patient. These are owing to the lentor of the fluids, and weakness of the solids; whence the humours cannot easily ascend against their proper gravity.

IV. If no kind of dropfy supervenes, a colliquative diarrhæa commonly succeeds.

DIAGNOSTICS. The existence of the disorder is discovered at first sight. But its causes are more difficult and hidden, since in order to investigate them, the infant's state should be examined, to see whether he has a hydrocephalus, or tinea in the head, dentition, or any other disorder in the mouth. Then proceed to the breast, and examine whether respiration is affected, and if there be a cough; for we have no other method of discovering any disorder in their lungs;

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lungs; because children do not yet know how to spit or expectorate. After the examination of the breast, the next thing to be viewed, is the abdomen, in order to see whether it be swelled, or there be diarrhæas, chylous stools, or obstructions of the mesenteric glands. The same thing is to be understood of the universal disorders; in short, all the diseases of infants should be known, in order to discover all the causes of a *marasmus*, or decay; for they may all, if obstinate, produce the disorder.

Finally, the degrees of the disorder are to be discovered; for this is of importance to the cure; the first degree being curable, the second sometimes to be removed, if the cause be not very intense and obstinate: but the third degree is absolutely incurable.

PROGNOSTICS. This consumption is not only incommodious, but dangerous in all its degrees; yet the danger is various, according to the different causes. Thus, if the disorder springs from indigestion, dentition, worms, or the like, as the causes are transitory, they are easily removed. On the contrary, if it springs from an abscess, or

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tubercles

tubercles in the lungs, scrophulæ, or obstructed glands in the mesentery; as all these are obstinate disorders separately, consequently that which they produce, or the *macies*, must necessarily be so. Finally, the time of its duration should be considered; for a recent *macies* is curable, but an inveterate one is incurable.

CURE. I shall be very brief on this subject, both because the disorder is commonly incurable, and because I should otherwise treat all the disorders of children, of which this may be a symptom. Therefore the reader is to consult all of them in their proper places. There are only two things to be observed here.

I. Whether the infant be weaned or suckled, let the nurse be changed, and another employed, whose milk is recent; for though he be weaned, yet he has not totally forgot the habit of sucking. Let the nurse be healthy, regular, observe a good regimen, and mostly live on milk-meats, rice, fresh eggs, &c. for this is the only method to palliate the disorder.

II. If the watchings, pain, &c. be very considerable, order some narcotics, according

ing to the infant's age, but with a great deal of circumspection. In the mean time you may order some other proper remedies suiting the different causes which produced the evil, as, 1. An ulcer in the lungs, with some balsams, or butter of cacao. Tubercles of the lungs, are treated with *Morton's* balsamic pills; if he has an ulcer of the lungs, *King's-evil*, &c. let them be treated with their respective remedies. If the infant be very young, weak, and incapable of bearing the frictions in venereal cases, let the disorder be communicated to his nurse, that the mercurial frictions, whereby she is treated, may be more gently conveyed into the infant's body by the breast-milk; which he could never have born, if they were immediately applied to his own body. This method is to be used with sucking infants, or such as are very weak.

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